

# PULP & PAPER

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The Production and Management Journal Covering  
North America's Wood Pulp, Paper, Paperboard  
and Cellulose Industries

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*"The Cellulose Age"*

## EDITORIALS

*"This is one industry whose production, as it increases, also forces increased demand. Use of paper is an index to civilization itself; as civilization spreads, demand for paper again increases." Cola Parker, President, Kimberly-Clark Corp.*

### When New Uses Become Old Uses

The steady need for market and consumer research in the pulp and paper industry is brought home by two new developments. One of them is Gillette's new plastic container for safety razor blades. The package is plastic—no wax sheet, no paper envelope, no light board container for the whole. Blades are pushed out with the thumb through an aperture in the plastic. Up until now it has been difficult to imagine blades wrapped in anything but paper.

The other is a pair of drapes made from a combination of cotton fibers and plastics—no weaving. They sell for less than five dollars per pair and can be washed. Because they cost less than any comparable cloth drape they will compete directly, if successful, with paper curtains.

Neither of these developments marks the beginning of the end of the paper industry or anything like it. They don't mean the end of paper in the curtain and razor blade fields. But they do show that when paper wins markets from competitors it does not always hold those markets. Brains are active in other industries, too.

There are always new uses for paper. But new uses become "old" uses—and then watch out. The answer is the same as it is in other industries: Public relations to build confidence in the product—market research—consumer service and study.

### A Great Force for Better Health

Elliot M. Little, president of Anglo-Canadian Pulp & Paper Mills, developed an idea at a recent Health League meeting in Canada which has a lot of possibilities for good. He pointed out that industry can do a better job and can make a greater contribution to the improved health of the people than any other group.

"By its very nature," says Mr. Little, "industry is organized to produce—to get results. It consists of fairly tightly knit plant organizations composed of people who have learned to work together to achieve common and specific objectives. There is a fairly high level of understanding and confidence between management and workers in these plants. Here are organizations ready made for health work, if management will but give the lead.

This force in industry can be used for not only safety, but better health, of employees and all the citizenry of mill communities.

### Ridiculous Trade Barrier

Another indication that there is a long way to go in breaking down economic barriers between Canada and the United States was the recent refusal of apple shipments from Canada to the United States because the apples were wrapped in paper manufactured in Canada.

The apples had originally been intended for the United Kingdom, but dollar shortage there resulted in their diversion to the United States. They were held up at the border because an apple wrapped in tissue is deemed under U. S. customs procedure to be housed in an individual "container." Accordingly, each container must be marked "Canada."

The shipment had to be returned and each individual wrapper rubber-stamped by hand as it was not possible at that point to have the wrappers printed.

This is an instance of the ridiculous extremes to which customs barriers have built up between the U. S. and Canada.

### The Cry of "Wolf!"

Renewed "threats" of American publishers to develop sources of newsprint independent of Canada, following announcement of increased prices by several Canadian companies, may encourage Canadian mills to seek other markets.

Reference is often made by U. S. newspapers to the possibility that they could get a lot more newsprint by using Southern pine. But except for some of the Southern newspapers, none of the publishers would invest in such an enterprise—or they have shown no serious intentions. Besides that, Southern pine is now in strong demand for higher quality products than newsprint.

Publishers in the United States responsible for this "needling" of newsprint companies in Canada might well consider that the latter have been restricting supplies to Canadian newspapers and foregoing much higher prices for part of their production in order to fill the United States needs as fully as possible under existing conditions. Goodwill works more than one way.

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"More Fibers for Pulp and Paper" will be theme of our 1948 annual North American Review Number which goes to press next month. Complete statistical and interpretive reports will again make it the outstanding reference book of this industry.

# ALASKA'S SORRY MESS

## Pulp Mill Bids Now Unlikely

Department of Interior officials encouraged and supported a group of Indian lobbyists and lawyers to go ahead and start cutting U. S. Forest Service timber in Alaska which that latter organization has been attempting to sell to experienced pulp and paper industry operators in the United States.

This shocking fact has now been established beyond any question of doubt in the testimony of Indian lawyers themselves in the current hearings before the Senate public lands committee on a bill to prevent the Interior Department from setting aside any more Indian reservations in Alaska.

As reported in a previous issue of **PULP & PAPER**, Indian lobbyists sent a little portable saw to the Indian village of Kake this past winter as a move to establish possession and claim to the Alaskan pulp-timber.

This latest ugly chapter in the behind-the-scenes intrigue which the Interior Department has been carrying on for years in its attempt to gain control through Indian wards of the Alaska forests was only made into a more sorry picture by the frantic efforts of Interior Secretary Krug to clear his own skirts of any guilt.

In view of the numerous speeches and interviews he had been giving for over a year, before newspaper publishers groups and others, in favor of investment in an Alaskan pulp industry, this underground sabotage in his own department was all the more distasteful.

Lawson Turcotte, executive vice president of Puget Sound Pulp & Timber Co., told the Senate public lands committee that his company would make no bid for Alaskan timber and an Alaskan pulp mill site until the government cleaned house itself and settled once and for all the recurring Indian claims. He told of a letter from the Indian lobbyists warning him against bidding on timber they claimed for the Indian tribes of the Kasaan and Kake villages.

### There Will Be No Bid

Thus, there now seems very little prospect that any bid will be made on April 14 for the 1½ million cu. ft. of timber in the vicinity of Ketchikan which the Forest Service has offered for auction on that date.

It is also evident now that the Forest Service is no longer in a mood for postponements and if there is no bid forthcoming no future date will be set for auction of the Ketchikan unit and the blame will be placed squarely on the Interior Department, its Indian Affairs branch and the Indian lobbyists, and secondarily on the U. S. Congress for not taking steps to extinguish once and for all the Indian claims through some promise of a lump sum pay-off or otherwise.

However, it appears that under the law, the Forest Service could accept an uncontested private bid for the Ketchikan unit

within a few months after the April 14 date.

It also seems fairly certain that no future date will be set for the sale of the Petersburg-Thomas Bay timber unit, on which the D & F Co. of New York and Los Angeles had been formulating a bid prior to the latest Indian developments. They failed to present their bid on the scheduled auction date, Feb. 18. In this case, likewise, an uncontested bid in the next few months probably could be accepted by the Forest Service without a public auction.

The Foley engineering interests in New York apparently were, and still are, seriously interested in this Petersburg-Thomas Bay unit and were prepared with their share of the purchase price, but the newspaper publishers in California, who were to have collaborated, seem to have definitely pulled out of the project.

As a final commentary on a sorry situation, certain pulp and paper industry executives who have been interested in the Alaska developments point out that the bill to stop any further Indian reservations being set aside by the Interior Department still will not settle the real issue—a final and permanent adjudication of the Indian claims.

Meanwhile, the only parties who seem to be really doing something about Alaska's timber resources are James E. Curry, the Indian lawyer, who is continually



TWO KIMBERLY-CLARK CORP. executives who were recently promoted. EDGERTON S. NOBLE (left), Managing Director of Spruce Falls Power & Paper Co., and Vice Pres. of Kimberly-Clark of Canada, with offices in Toronto, has taken over new duties giving him overall direction of Kimberly-Clark operations in Canada.

W. H. "SWANNY" SWANSON, formerly Manager of Pulp Mill Manufacturing has been appointed a co-Chief of Staff of the Kimberly-Clark Corp., in Neenah, Wis., with his direction of pulpmaking enterprises greatly expanded in Canada and the South.

coaching and advising the Indian tribe leaders on strategy, and his law firm of Curry, Cohen and Bingham, and the Richard G. Green law office, in rooms 9 and 10, respectively, in Rockefeller Plaza, New York City. The Green firm organized the so-called Timber Development Corp., with its crude 10-cords-per-day capacity saw at Kake, to establish prior Indian claims to the timber, or to establish a claim for part or all of the purchase price which any private experienced operators might want to bid on the timber.

This firm, it will be remembered, was once advertised in the daily press as a "\$20,000,000 corporation."

## Sacramento Mill Project

Benjamin N. Rosenbaum, 565 Fifth Ave., New York, eastern industrial financier, told **PULP & PAPER** that he has become interested in the much discussed project of the recently formed Newsom Kraft Corp., which has projected plans for a large kraft and paperboard mill on Monument Ranch, six miles up the Sacramento River from Sacramento, Calif.

K. K. Newsom, of San Francisco, the president, would remain in control. He says the mill will cost \$17,000,000 and may make 500 tons and also make wallboard and says the company "will have access to 3 billion ft. of timber in northern California."

Mr. Rosenbaum said:

"I became interested in Mr. Newsom's project when he showed me a commitment from RFC to the amount of \$7,000,000. A commitment from RFC for this amount to an individual made me feel that the projected mill must have possibilities. My independent investigation strengthened me in this opinion. I have worked out a plan to finance the project on a straight one-type preferred stock issue redeemable after a certain number of issues at a premium. After the first year of full production at the mill, I expect the total amount of income to be

approximately \$20,000,000 annually—and that the net income before federal taxes should be \$4,500,000. In other words, after taxes and other expenses are paid, this should offer more than three times the dividend of 6 percent on the entire issue."

Mr. Rosenbaum had been conferring with Pusey & Jones regarding a board machine for the new mill.

Myron C. Gould, of San Francisco, is consulting engineer for the Newsom group.

### Appleton Plants Employ 7,000 People

Six of a total of 84 industries in Appleton, Wis., employing 7,132, employ more than 300 persons. They are Appleton Coated Paper Co., Combined Locks Paper Co., Consolidated's Interlake mill, Fox River Paper Corp., Valley Iron Works and Zwickers Knitting Mills.

Three Knitting Mills have more than 400 persons on their payrolls—Combined Locks, Fox River Paper and Zwicker's; while Zwicker's tops the list with an even 600 employees.

There are seven paper mills and one producing pulp; and nine plants which manufacture paper mill equipment and materials.



# Coast Convention May 6-8

National leaders of the industry again will be guests at the Annual Joint Spring Meeting of the Pacific Coast section of TAPPI and Pacific Coast division of the Superintendents, and for the third successive year the organizations will go to the Oregon seaside resort of Gearhart on May 6-8.

This is about a fortnight earlier than the usual dates for the Joint Meeting. The coast groups hoped that national officers of both associations who will be attending the Superintendents convention in New Orleans on May 19-21 and other meetings later that month, would find it convenient to go west for an earlier meeting at Gearhart. As this issue went to press, it was not determined what national officers would be able to attend.

Dr. Walter F. Holzer, of Crown Zellerbach's Central Technical and Research Department, will be the general convention chairman.

Reservations and registration are to be handled by Ben Natwick, Pacific Coast representative of Appleton Wire Works, Pumpkin Center, Clark County, Wash., and Milton Maguire, manager of the Portland, Ore., plant of Hercules Powder Co. Other committee appointments will be announced next month.

Dr. Joseph McCarthy, chairman of Coast TAPPI and Gerald F. Alcorn, chairman of Coast Superintendents, made plans

for Gearhart at a meeting in Tacoma, Wash., on Mar. 9 and Dr. Holzer and his committee met in Portland on Mar. 19.

## Michigan Superintendents Plan Dinner Dance

The Superintendents of the Michigan Division will hold their Annual Ladies Night Dinner Dance Saturday evening, April 17, at the Park-American Hotel, Kalamazoo. Arthur E. Woollam, representative of Gould's Pumps, will act as toastmaster.

The Allied Trades are sponsoring the cocktail hour, 6 to 7 p. m. Reservations may be made by calling 3-2546, 2-0134 and 4-3236 Kalamazoo.

## New Instrument Society Formed at Appleton

Clyde Steele of Combined Locks Paper Co. was named to serve as president pro tem of the newly organized Lake States Instrument Society at the Institute of Paper Chemistry, in Appleton, Wis., when 45 persons met there recently and heard a talk by Dr. J. A. Van den Akker of the Institute on instrumentation.

Robert Rae and Frank Kottwitz of the Institute are serving as secretary and treasurer pro tem.

Dr. Van den Akker's talk clarified the basic concepts of instrumentation. He

pointed out that the older an industry is, the poorer its instrumentation seems. The leather industry, he said is virtually without instrumentation; the paper industry did not use instruments until about 20 years ago; while the electrical industry, of relatively recent origin, is highly instrumented.

## Report on Meeting Of Kalamazoo TAPPI

Support of a paper technology course at Western Michigan College was pledged at a meeting of the Kalamazoo Valley section of TAPPI in Kalamazoo, Mich., on Feb. 5 approving establishment of the course.

The section also gave support to a plan to be host to a meeting of National TAPPI in the spring of 1949 which would be devoted to the subject of coating. The session would be a two-day affair.

M. C. Welker, representative of the American Cyanamid Co., discussed "Water Treatment with Ion Exchange Resin." He described the method, aided by films, whereby dissolved material in water is removed with resin, giving the equivalent of distilled water.

The process is new to the paper industry as yet, being used by only one mill which makes paper for use in electrical insulation.

## Meeting At Ocean Falls For Canadian Group

Tentative dates for the annual spring meeting of the western branch of the technical section, Canadian Pulp and Paper Association, have been set for May 19 and 20. The sessions will be held at Ocean Falls, B. C. John Ashby, mill manager, Westminster Paper Co., is chairman, and John C. W. Evans, technical control superintendent, Sorg Pulp Co., is secretary-treasurer.

## Lactic Acid May Be Produced From Effluent

Although its economic feasibility has not yet been established, a process for converting the sulfite effluent of pulp mills into lactic acid has been devised by three University of Wisconsin biochemists, Reid H. Leonard, W. H. Peterson and M. J. Johnson. Lactic acid is used in the tanning, lacquer and food-processing industries. They said lactic acid, valued at 19 cents a pound, can now be produced from the mill wastes with the addition of substances valued at 3½ cents a pound, providing the wood lignin, which remains, is used as fuel, saving an additional cent a pound. Capital outlay and labor costs have not been estimated.

## Biggest Supercalender

A new 228-inch wide supercalender stack for a Wisconsin book mill will be the largest in the world, it is understood. It will operate at 1,600 to 1,800 feet per minute.

A CLASSIFIED AD published in a recent issue of PULP & PAPER, offering a position to a young engineer brought eight replies in the first week after the issue was out.

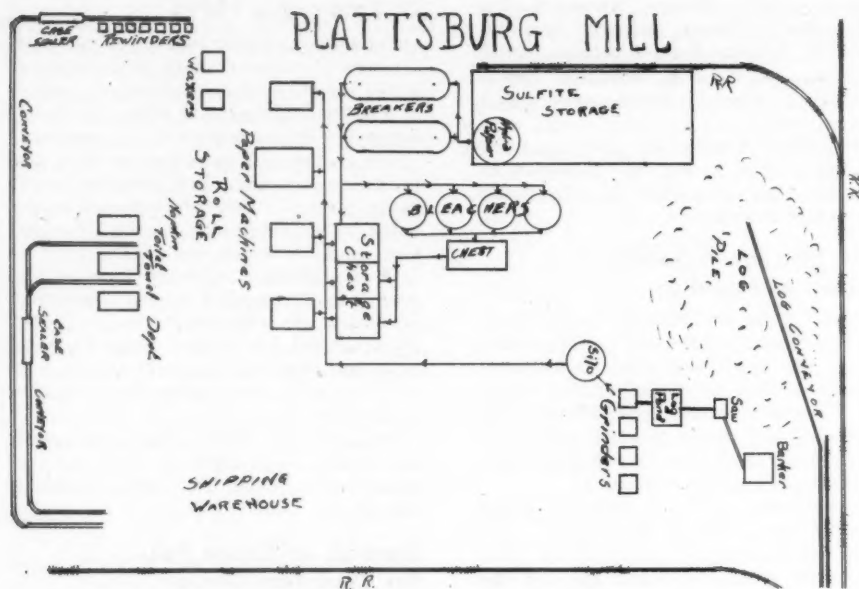
## COMING INDUSTRY MEETINGS

Canadian Industry Woodlands Section—Montreal...Mar. 31-Apr. 1-2  
TAPPI Kalamazoo Valley Section—Columbia Hotel, Kalamazoo, Mich. ....Apr. 1  
National Paper Trade Assn.—Waldorf-Astoria, New York.....Apr. 5-7  
Supts. Michigan Division—Park American Hotel, Kalamazoo, Mich. Ladies Night Dance.....Apr. 17  
TAPPI Empire State Section (West)—Prospect House, Niagara Falls, N. Y. ....Apr. 21  
TAPPI Lake States Section—Am. Legion Hall, Appleton, Wis. ....Apr. 13  
TAPPI Empire State Section (East)—Queensbury Hotel, Glens Falls, N. Y. ....Apr. 16  
TAPPI New England Section—Roger Smith Hotel, Holyoke, Mass. ....Apr. 16  
Connecticut Valley Supts.—Sheraton Hotel, Springfield, Mass. ....Apr. 17  
Penn.-N. J.-Del. Supts.—Abraham Lincoln Hotel, Reading, Pa. ....May 1  
Packaging Show—Public Auditorium, Cleveland.....Apr. 26-30

Joint TAPPI-Supts. Coast Meeting—Gearhart, Ore. ....May 6-8  
National Paper Box Mfgs.—Netherlands Plaza, Cincinnati.....May 9-12  
National Supts. Convention—Roosevelt Hotel, New Orleans.....May 19-21  
Western Branch, Canadian Technical Section—Ocean Falls, B. C. ....May 19-20  
Envelope Mfgs. of America—White Sulphur Springs, W. Va. ....June 10-11  
National Paper & Twine Assn.—French Lick Springs, Ind. ....June 11-12  
Technical Section Canadian Assn.—Harrison Hot Springs, B. C. ....Sept. 4-6  
National Paper Trade Assn.—Hotel Stevens, Chicago...Oct. 28-30  
TAPPI Fundamental Research—Madison, Wis. ....Aug. 25-27  
TAPPI Mechanical Pulping—Poland Springs, Maine...Sept. 27-29  
TAPPI Engineering Conference—Buffalo, N. Y. ....Oct. 25-28  
Paper Industry Salesmen—Midston House, New York City—Every Monday, 11 a.m.-2:30 p.m.

## CLOSE INTEGRATION ACHIEVED

# At Two B-F-D Mills



It was in December of 1944 that B-F-D Division, The Diamond Match Co., bought the Algonquin Paper Corp.'s mill at Ogdensburg, N. Y., with a view to tying it in with production at its modern manufacturing operations at Plattsburg, 130 miles across the state. The two plants now comprise a pulp and paper section supplying Diamond Match Co. with paper and pulp products to add to its line of other household products.

The Algonquin mill was once a famous newsprint operation, but it succumbed to the decline of the newsprint industry in northern New York, and its big 212-inch machine was destined to make book paper at Deferiet, N. Y. The stoppage of operations was incidental in the strong trend away from newsprint and into magazine papers that had been going on throughout the U. S. for several years and particularly in New England and upper New York.

B-F-D immediately started a program of renovation and improvements. The

AIR VIEW OF B-F-D CO. AT PLATTSBURG, N.Y., taken recently for PULP & PAPER







LEFT TO RIGHT: R. G. FAIRBURN, President of Diamond Match Co., parent firm of B-F-D Co.; BRADFORD O. PREU, Vice-President in charge of the B-F-D Division (He was Vice-Pres. and Treasurer of B-F-D before it was acquired by Diamond Match); DR. JOMES E. FOOTE, Assistant General Manager; J. O. JULSON, General Man-

of both B-F-D mills; I. PURDY, of Merritt, Chapman & Scott, in charge of the new construction at Plattsburg; CHARLES N. HAGAR, JR., Technical Director of both operations, and LEO N. POCCIA, who succeeded him as Chief Chemist at Ogdensburg.

shortage both of chemical and mechanical pulps for its Plattsburg mill made it necessary to do this as promptly as possible. Sketch plans and flow sheets were made by B-F-D men in conjunction with representatives of various equipment suppliers, and preliminary work started in March, 1945. Chas. T. Main, Inc., an engineering concern of Boston, was called in during July, 1945, and engineered the job to completion.

Construction work was done by Merritt, Chapman & Scott Corporation; a new chipper house and other facilities were built, and preparations are under way for the installation of four molded pulp products machines.

Equipment was ordered and work progressed so that the first sulfite was produced Aug. 21, 1946. During this period the sulfite mill was practically rebuilt, starting at the acid plant, and out through the balance of the plant.

Groundwood was produced in December, 1945, as very few changes were necessary in that department.

When **PULP & PAPER** visited Ogdensburg and Plattsburg mills, the two operations were working hand-in-glove as a fully integrated operation from wood in the pond to tissue products.

Although Plattsburg has pulping operations of its own, the duty of Ogdensburg is to furnish the end-use mill with raw materials: Groundwood and sulfite pulp in about equal quantities which are transferred to Plattsburg by rail and truck.

#### Ogdensburg Mill Operations

Beginning operations at Ogdensburg are an interesting example of efficient wood handling. Wood pulp comes chiefly on the St. Lawrence from Canada, although small quantities are bought from farm woodlands in the area. River pack-ets bring loads of 1500 cords to docks on the mill property. Several improvements have been made here over the former method of unloading pulpwood here in the days when Ogdensburg was a newsprint center. Quayside elevations were previously used and mobile cranes were moved to these elevations to unload pulpwood from the cargo vessels. These are still used to some extent, but a newer method is proving faster. Dock inlets have been excavated into the shoreline to form boom ponds and the wood is unloaded directly from ship to pond.

Other handling equipment includes six

Northwest cranes with orange peel buckets suspended from Trulay cables. Useful in the yard is a Caterpillar tractor with Hyster attachment used for handling wood as well as for constructing roadways for the cranes. Marine equipment consists of two vessels: a "Sea Mule" with steel barge, for handling wood in the stream, and a 32-foot fireboat powered by two 150 hp Chrysler motors, jet-stream propelled and steered. The barge equipment is used either for towing booms or moving scows between the two docks.

Wood is chain conveyed to the wood-handling building which is now being enlarged, where it enters a 12x40 Carthage dry drum and from there drops several feet into a Fibre Making Process wet drum. It is then chain conveyed to a 10-knife Murray chipper.

In the acid plant the principal changes were made in the sulfur combustion and gas cooling equipment. New gas coolers were installed, and complete control instrumentation installed. The acid making is practically automatic, it being controlled by the cook on the operating floor. Sulfur level in the burner is controlled by Taylor instrumentation. Make-up water to the Jensen acid towers is controlled by a Fischer-Porter Rotameter.

The four digesters were equipped with stainless steel pipe and fittings and Chemipulp Processes, Inc., circulation. The digesters are 15 ft. x 45 ft., and rated capacity is 130 tons per day.

The blow pits were the old style wood drainer bottom type, walls being concrete, tile lined. The construction was in bad condition, but lent itself readily to repair and redesign. Stebbins Engineering and Improved Paper Machinery collaborated on a design which incorporated solid bottoms, tile lined blow pits in four sections, each section being equipped with a line of stainless agitation. The stock is pumped out by a pump located in between blow pits No. 2 and No. 3, and handles adequately all the stock to the washer. The design of blow pits as outlined is very satisfactory, and B-F-D feels it has the ideal arrangement in blow pits.

Blow pit stock is pumped to an Improved Paper Machinery Co. rubber covered washer on the top floor. Washed stock drops to a tile lined brown stock chest and is then pumped to the head of the riffler line. A noticeable feature is the omission of knotters, a feature which Dr. Raymond E. Baker, then technical direc-

tor, felt worth trying. It has proven successful. Riffling is accomplished in tile rifflers without baffles. Consistency desired is about 0.8, with good results obtained in wide variations from this point. The riffled stock discharges into the screen flume located on the floor below; from this flume the unscreened dilute stock passes to six lines of primaries and three lines of secondaries. The screens are equipped with Hardy stainless steel plates. Accepted stock is thickened over an Impco vacuum decker and then lapped on Kamy machines. Screen rejects at present are not saved, but work is progressing rapidly to lap up refined screenings rejects so as to save this valuable fibre. The lapped pulp is shipped to Plattsburg.

An interesting feature of the sulfite operation is the instrumentation. The entire process of acid making and cooking is controlled by instruments located on the operating floor of the digester house. Mason-Neilan provided the main instrumentation with Leeds-Northrup and Taylor providing several items of specialized control. One man operates blow pit pumping, stock washing, riffling, screening and thickening, through a panel located on the screen room floor.

Major equipment was supplied by Stebbins Engineering & Manufacturing, Chemipulp Process, Inc., Warren Steam Pump Co., Improved Paper Machinery Co., and instrumentation as noted above.

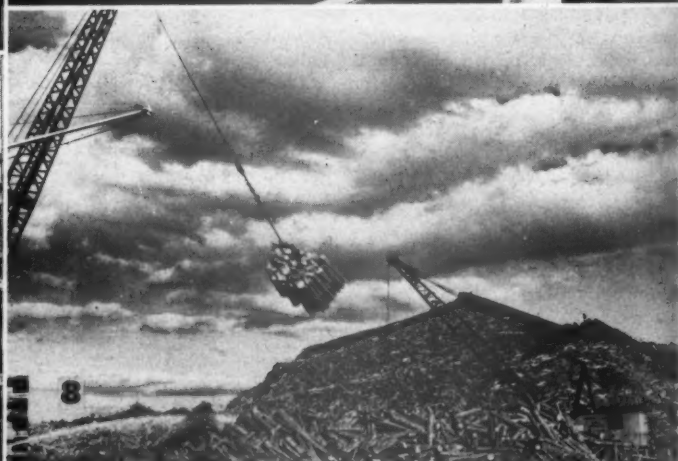
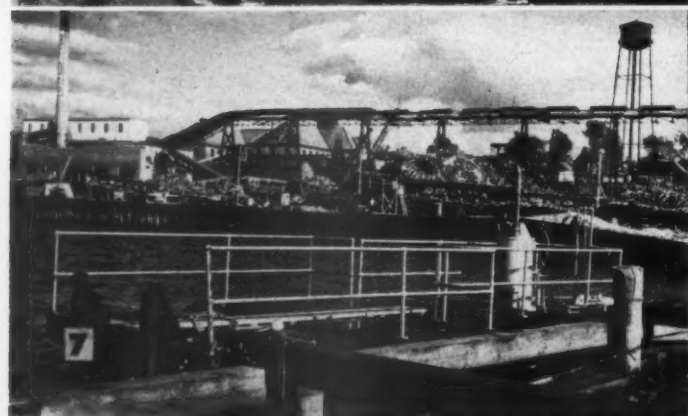
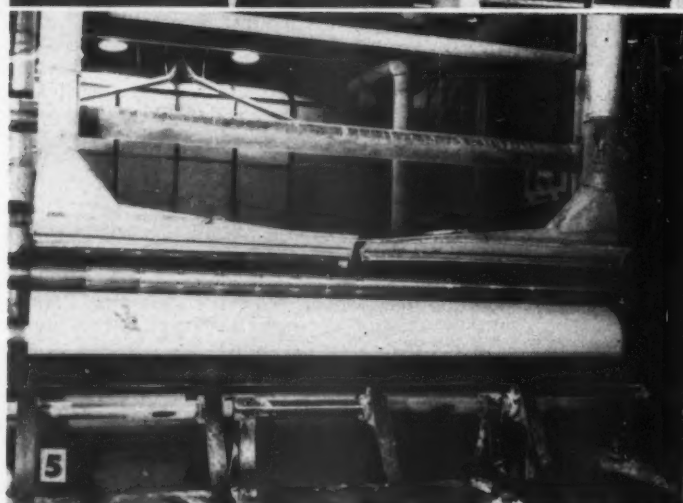
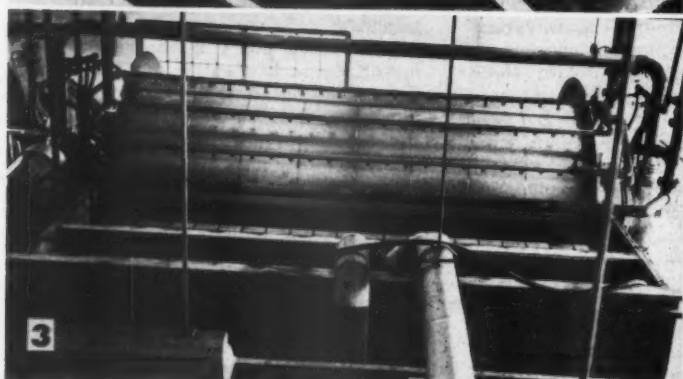
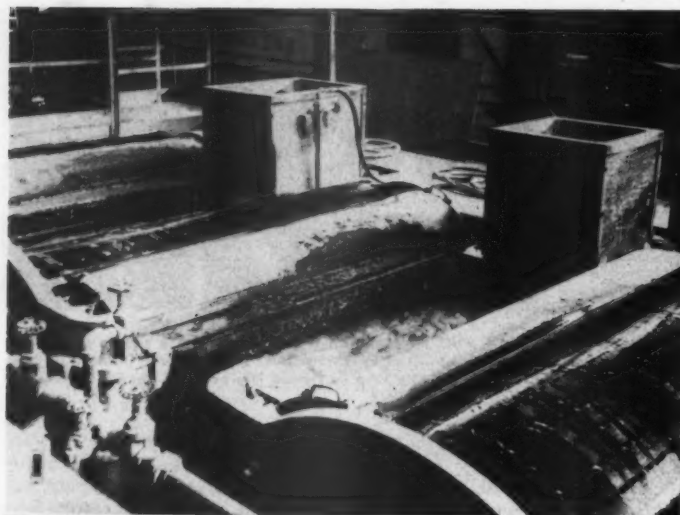
The groundwood mill has been improved largely only in the addition of Rogers type wet lap machines. The grinders are Roberts type; five being installed with 1000 H.P. on the grinder shaft. This was the first installation of a Roberts grinder. At present, lap capacity provided is good only for forty tons of groundwood per day.

Operating personnel at Ogdensburg includes: D. A. Hunter, superintendent of operations; K. L. Pingrey, pulp superintendent, and J. C. Benny, control superintendent.

Ogdensburg presents a picture of a smooth running wood-handling and groundwood and sulfite pulping operation which is the basis for the tremendous activity over to the east on Lake Champlain—the Plattsburg mill of B-F-D.

#### Plattsburg Mill Operators

During the war B-F-D published a magazine especially for its employees in





**OGDENSBURG AND PLATTSBURG MILLS VIEWS on opposite page:**

1. Improved Paper Machinery Co. screens at Ogdensburg.
2. KARL FINGERY, Supt. (left) and DONALD HUNTER, Manager, at Ogdensburg.
3. Impco washer at same mill.
4. Ogdensburg sulfite pulp at the Plattsburg mill's storage warehouse. It is conveyed to platform above to reach mouth of Hydrapulper.
5. Cameron Machine Co. slitter and rewinder on No. 6 paper machine at Plattsburg.
6. Stebbins tile rifflers at the Ogdensburg plant.
7. Barge and "Sea Mule" at Ogdensburg, part of marine wood-handling equipment.
8. Wood handling on the upper dock at Ogdensburg. Wood is taken by mobile crane from the S. S. Leecliche Hall on the St. Lawrence and piled in the yard.

the service. In one issue of *The Mill Whistle* the president said: "We believe in the coming postwar world . . . and so come back in your work clothes so as not to lose any time."

The war is over, the boys are back, and there is plenty of evidence at Plattsburg that the management meant what it said. There have been many improvements here during the war years, when B-F-D products were designated essential, and this expansion program is still under way.

The Plattsburg plant has been operated by B-F-D since 1930. Its principal products are tissue and molded pulp. This mill is located on Lake Champlain, and is served by the Delaware & Hudson Railroad. It has four paper machines:

1. Beloit Yankee—132 inches—Waxing.
2. Beloit Yankee—177 inches—Toilet and napkin.
3. Bagley & Sewall—90 inches—napkin.
4. Bagley & Sewall—90 inches—Towel and wrapping.

J. O. Ross Engineering has three systems on four machines at the Plattsburg mill, and another coming up for the Yankee dryer on the new No. 7 machine to be installed. The latter includes hood and paper absorption supply system as well as machine room heating and ventilating, basement ventilation, calendar cooling, and motor generator ventilating.

The three Ross systems already installed date from 1924 right down to 1940. The first one was installed by Mr. J. O. Ross himself on the Yankee for the No. 1 machine and includes supply system, economizers, and roof heating and ventilating. The second system, installed in 1932, was on the No. 4 and No. 5 machines, a combination job because both machines exhausted into one economizer. Hoods and bottom felt system are separate.

The third installation is on the No. 6 machine and includes hood and exhaust with vapor and absorption supply to the 12-foot Yankee.

It is equipped with a modern two-stage bleach plant, spacious pulp storage building, up-to-date machine and electrical shop, paper storage, converting section, and warehousing.

Groundwood is supplied in part by a



AT THE SIGN OF B-F-D (left to right): HERBERT F. JACQUES, Technical Director; E. C. KEYSER, Paper Mill Supt., Plattsburg; P. D. BRADLEY, Supt. of Operations, Plattsburg; A. T. HARDING, Converting Supt. at Plattsburg, and SVERRE H. GRIMNES, Chief Engineer for both mills.

40-ton groundwood mill used in slush form. Sandy-Hill 2-ft., 3-pocket grinders are installed.

Converting 100 tons of tissue daily calls for an extensive conversion process. Some of it is waxed and turned into household rolls on Schultz rewinders. Napkins and towels are made on Paper Converting and Hudson-Sharp Converters. Toilet tissue is wound and wrapped on Paper Converting Co. equipment. There also is a flat goods sheeting department for such flat sheets as are required. All goods are cased and conveyed to a large warehouse where Towmotors and pallets combine to make an economical operation.

The molded pulp line of goods is in the form of pie plates and food dishes. Additional facilities are being installed to extend this tonnage.

A modern steam plant consists of five B&W—500 H.P. boilers at 450 p.s.i., two 2500 KW-G.E. Condensing Extracting units. Additional power is available from hydroelectric plants on the Saranac River. No purchased power is used.

Water supply is through a settling basin and filtration plant arrangement. Bacteria count can be controlled to within very

narrow limits.

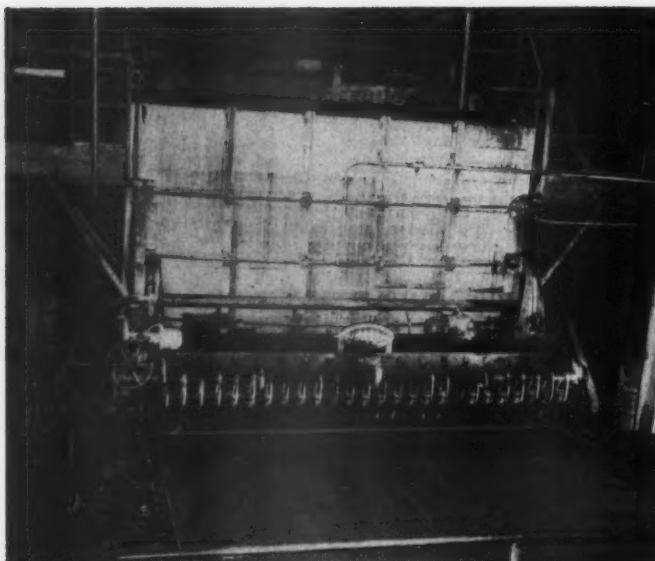
The plant is thoroughly modern, clean and well lighted. A cafeteria of excellent layout supplies food 24 hours per day to the employees.

Future expansion will include a new Beloit 132-inch Yankee for creped tissue production. The foundation for this building and for the equipment has been completed, and a new wax storage building is planned, both operations under I. B. Purdy, project manager for Merritt, Chapman & Scott.

Operating personnel at Plattsburg include: P. D. Bradley, superintendent of operations; E. C. Keyser, paper mill superintendent, and A. T. Harding, Jr., converting superintendent.

The Diamond Match Co. is now headed by Robert G. Fairburn, recently elected to the presidency of the company. The B-F-D Division is headed by Mr. B. O. Preu, division manager. Pulp and paper operations are headed up by J. O. Julson, general manager; James E. Foote, assistant general manager; Sverre H. Grimnes, chief engineer; C. N. Hagar, Jr., technical





director. Purchasing for pulp and paper is in charge of W. G. Wallin, purchasing agent.

Homan F. Hallock of Oswego, New York, chief engineer of The Diamond Match Co., designed and laid out the Plattsburg plant.

### Mexico Protects New Kraft Industry

To protect the new kraft pulp and paper mill which has been built with government funds at a cost of about \$10,000,000 at Atenquique, in Jalisco province and several other new or expanded kraft mills near Mexico City and Monterrey, the Mexican government has banned kraft board imports.

This was a serious blow to Southern Kraft division of International Paper Co., which has dominated the market in Mexico. In mid-February, there was a reported 5,000 tons of kraft pulp unsold and available at the Atenquique mill.

On Jan. 23, Harry L. Borders, who had represented Southern Kraft in Mexico City and Latin America for over 20 years, died suddenly at Mt. Sinai hospital in New York and was buried later at St. Louis.

International Paper Co. announced that

### SOME OF THE EQUIPMENT AT PLATTSBURG MILL:

Upper left: Valley Iron Works headbox on the No. 6 machine, the largest machine—172 inches, making tissue. Above are E. D. Jones & Sons screens.

Upper right: Flat screen and Bauer Bros. Pulper with its electric drive at left. Lower left: Dry end of No. 6, largest machine installed at Plattsburg, showing J. O. Ross dryer section hood.

Lower right: Gould pump is on the left in this interior view in pumphouse, Worthington on right. They have capacity for 3400 gallons per minute.

American Paper Export, Inc., of 75 West St., New York, would represent them in Mexico City. APEX is in turn represented by M. Whitehouse, San Juan de Latran 21, Mexico City.

### Valley Iron Works Erects Addition

The Valley Iron Works will erect an addition to its plant in Appleton, Wis., to provide additional space for the assembly and welding departments, it is announced by R. A. Peterson, president.

The new addition is the first section of a contemplated expansion program for the future. It will stand on a large tract of land recently purchased from the Chicago and North Western Railway. When equipped with new facilities it will constitute an investment of well over \$100,000.

The addition will house one of the largest traveling cranes in the Fox River valley, a 30-ton capacity job with a 76½-foot span. A railroad spur track will enter the

building and will run its entire length.

To be built of structural steel and masonry walls with glass block windows, the structure will be 120 feet long, 80 feet wide and 50 feet in height. It will be adjacent to another new Valley Iron Works addition which is 205 feet long and 60 feet wide.

### New Greenwood Mill To Be Built by Bowater's

Construction of a new groundwood mill at the Corner Brook, Nfd., operations of Bowater's Newfoundland Pulp & Paper Mills, has been announced by Manager Gerald Penney following his return from a visit to Bowaters mills in England and Sweden.

Mr. Penney investigated the wallboard situation overseas and expressed the opinion a wallboard mill in Newfoundland would be practical.

The new groundwood mill will use much pulpwood previously exported to England.

# Expansion and Modernization AT GAYLORD CONTAINER

By D. L. Pollett

Chemical Engineer, Gaylord Container Corp.

Object of this article is to give an outline of the installations and improvements that provide for an increase of 50% in production of Gaylord Container Corp. in Bogalusa, La., over the pre-war level.

Offspring of a gigantic sawmilling operation, and nurtured on the promise of a long life through an early and extensive reforestation program, papermaking at Bogalusa, La., dates to the early period of 1917.

The original mill of that date was a subsidiary of the Great Southern Lumber Co. and was an integrated unit designed for the production of 60 tons of sulfate pulp and 105 tons of liner board daily. The subsequent history of the mill is marked by successive periods of growth.

In June 1937, the company, then known as Bogalusa Paper Co., merged with Robert Gaylord, Inc., paper and board converters, to form the present Gaylord Container Corp. with an integrated Mill Division operating at Bogalusa, supplying converter plants throughout the country.

The extensive expansion of the sulfate industry in the South in recent years uplifted the operations at Bogalusa with it, and the progressive spirit at Gaylord was quick to take up the challenge of increased demands on quantity output and on quality. Newly installed equipment currently being put into operation, supplementing a 1940 expansion program gives to this mill a capacity and versatility warranting an enviable position in the sulfate industry. Completion of the current program brings the capacity of the pulp mill to 650 tons per day of sulfate



D. L. POLLETT, Chemical Engineer at Gaylord Container Corp., who prepared this article for Pulp & Paper on improvements at the big Louisiana mill.

pulp; the capacity for semi-chemical pulp production to 100 tons per day. Waste paper handling capacity of approximately 100 tons daily will permit of an overall daily production of approximately 850 tons of all grades.

The versatility of the present mill is exemplified by the range of products manufactured. These include Fourdrinier and cylinder liner board, filled and chip grade boards, corrugating board, bag, wrapping, and laminated papers, bleached grades, and a wide variety of specialties. These are produced on three cylinder and four Fourdrinier machines, the latest of which is a modern Beloit machine.

The mill continued to grow through its early periods. Then, a 1940 expansion program provided for the installation of No. 7 machine, a high speed Fourdrinier, for a 150-ton bleach plant, two boilers having a combined rating of 315,000 lbs. of steam per hour, a 10,000 k.w. Westinghouse turbo-generator, a 175-ton Combustion Engineering recovery furnace, and

two, 2-stage Swenson-Nyman rotary brown stock washers.

## Modern Beloit Machine

Put into operation in late 1941, No. 7 machine is a Beloit Iron Works unit trimming 196 inches and taking a 216 inch wire. The machine is driven by a 1200 h.p. Westinghouse turbine operating at 140 p.s.i. inlet and 75 p.s.i. exhaust steam pressure and connected through a Westinghouse reduction gear. Maximum rated speed of the machine is 1500 ft. per minute. Production well in excess of 300 tons liner board per day is quite common.

All driven sections of the machine are mounted on anti-friction bearings. Positive lubrication is provided to the drier bearings, drier drive and calender stack bearings by a Bowser circulating oil system.

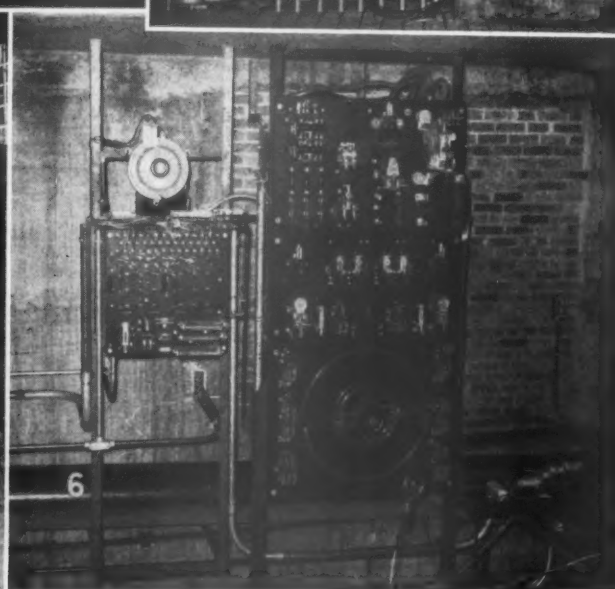
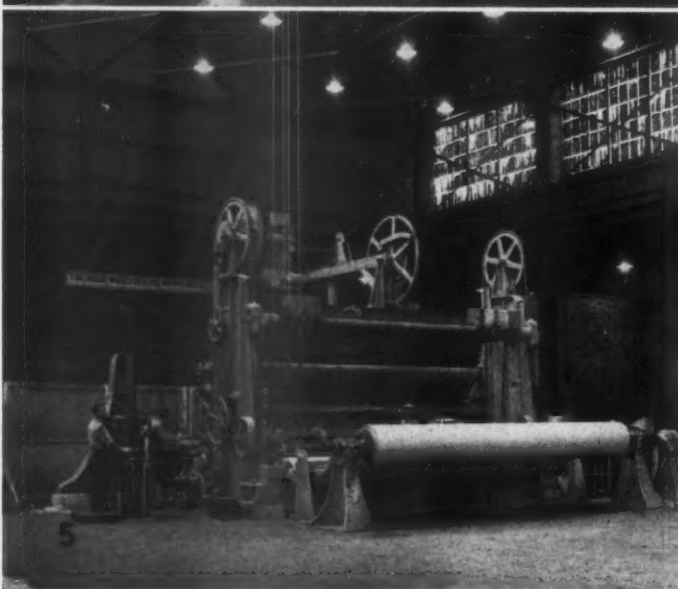
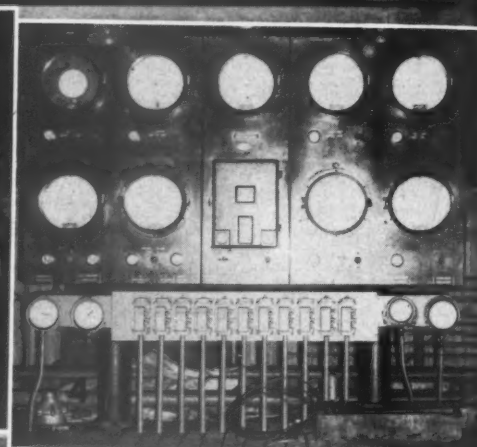
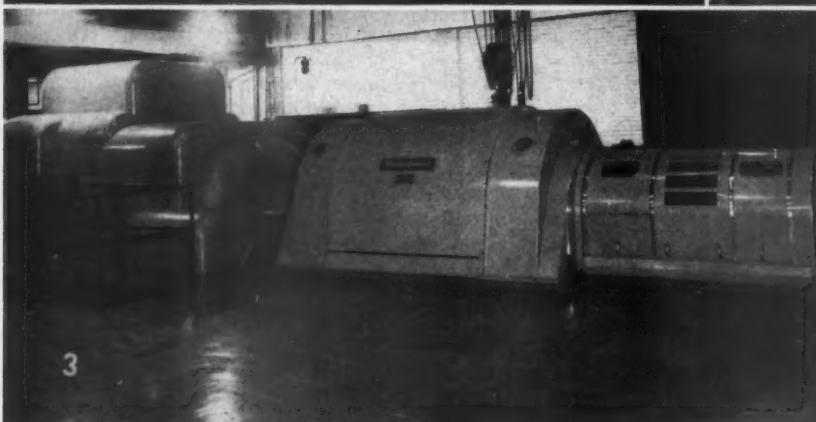
The head-box is of advanced Beloit design incorporating the patented "Flow Evener" cross-flow distributor and slice. A secondary head-box for use when running liner board is located at the beginning of the suction box area.

The primary fan pump is a Dayton-Dowd V-belt driven centrifugal powered by a 250 h.p. motor, and rated at 23,000 gallons per minute at 30-ft. head. Vacuum for the suction boxes, couch, and presses is provided by a series of six size L-9 Nash Hytor rotary vacuum pumps driven by 150 h.p. motors.

The Fourdrinier section is entirely removable to facilitate rapid wire changing. Eight stainless steel suction boxes with micarta covers are provided and arranged with an oscillating feature to prevent

VIEW OF GAYLORD CONTAINER CORP. operations at Bogalusa, La., from across the old log pond, which formerly served the Great Southern Lumber Co.





**GAYLORD MILL VIEWS:** (1) The 214-inch Beloit Iron Works paper machine, though installed pre-war, still ranks high. It has 50 paper dryers and 8 light felt dryers; runs 1100 ft. per minute on wrapping paper. Its work is completed with a Beloit re-winder.

(2) The Sutherland Refiners battery which is serving Refiner Corp.'s (Trenton, N.J.) Beloit No. 7 paper machine, saving power for the company.

(3) The 10,000 KW Westinghouse turbo-generator furnishes power for operation of paper machine and its servicing equipment.

(4) Full control of the Swenson-Nyman 4-stage counter current washing is accorded through this Foxboro Stabilog and panel board.

(5) Beloit two-drum special design rewinder is powered by a Reliance Electric & Engineering Co. drive up to 2600 feet per minute. Rolls handled weight 2600 lbs. (sometimes more). Backside of the Beloit rewinder shows how the roll is discharged into a cradle. The spindle is held (at end) by back stop and a motor driven conveyor and chain moves the roll out of position (to left) onto an elevator and at the same time clears the spindle which is returned to the machine by the overhead hooks. The Reliance All-Electric drive uses the Reliance VS System.

(6) It is through this Reliance control board that the Beloit rewinder's Reliance drive is governed. The drive was recently modernized by addition of a Reliance automatic regulator and transfer for automatic regulation for handling jumbo rolls to manual for counter rolls. Overloading of motor is obviated.



grooving of the box faces and insure even wear on the box surfaces and wire. The suction couch is 40 inches in diameter with a 227-inch face and a 216-inch maximum suction area.

The press section features a Beloit horizontal dual press. The center roll in the unit is Stonite covered and the first and second suction press rolls are rubber covered. An adjustable arrangement provides for applying the desired nip-pressure between the center roll and the press rolls on either side.

The drier section comprises 52 paper dryers and eight felt dryers of 60 inches diameter and 212 inch face, driven in three sections. Bird Machine Co. doctors are supplied on the bottom line of dryers. A smoothing press is situated midway between the dryers. The entire drying section is equipped with a Ross Engineering Corp. air system comprising a hooded section over the dryers, an air exhaust system and arrangement for hot air injection at points about the dryers.

Two Beloit open-sided calender stacks are provided. Between them are two calender dryers. The reel is a heavy duty board type in which pressure cylinders on either side of the reel provides for uniformly hard rolls.

The rewinder is built by Beloit and powered by an all-electric drive up to 2600 ft. per minute. An automatic shaft puller and roll handling device serves to facilitate the rewinding operation to keep pace with the high output of the machine.

The drive uses the Reliance V\*S System.

Stock refining equipment constitute four Shartle-Miami No. 5 jordans, and three Sutherland refiners—two of 42 inch diameter and one 48 inches in diameter. An 8 ft. x 14 ft. Oliver saveall operates on the white water system and trim is handled by a Valley Iron Works Continuous-Beater.

#### Bleach Plant

The bleach plant, installed as part of the 1940 program, is designed for 150 tons daily capacity and is arranged for maximum flexibility of operation. This plant was designed and installed by Pulp Bleaching Company, of Seattle, Washington, headed by Raymond P. Hill, formerly of Orange, New Jersey.

Bleaching is carried out at low to medium consistency in seven stages comprising the following: (1) chlorination (2) neutralization (3) first hypochlorite (4) caustic extraction (5) soak (6) second hypochlorite (7) sulfur dioxide.

In physical handling, stock is alternately treated in reaction towers, then washed and thickened on vacuum washers before chemical addition at the next stage. Any desired proportion of semi-bleached stock may be drawn off after the third stage, with the balance continuing in process to be bleached to any degree desired up to an attainable 80 to 85 G.E. brightness. During the war years, the system was arranged with but slight modification to produce a nitrating grade alpha pulp.

Screening of stock prior to bleaching is provided for by two Impco knotters and



VERTREES YOUNG, Executive Vice President and Resident Manager of the Gaylord Container Corp., Bogalusa, La.

twelve, 12-plate D. J. Murray flat screens arranged in three lines of four sections each and provided with stainless steel plates. Subsequent thickening is carried out on two Pulp Bleaching high-capacity spiderless deckers, followed by adjustment to 3% consistency by a Brammer consistency regulator before delivery to an equalizing chest preceding the chlorination stage.

Chlorine is handled by displacement by means of dry air and is conducted through iron piping and an iron vaporizer to the point of consumption; bleach liquor is handled through rubber lined and stainless steel lines. Stock is handled

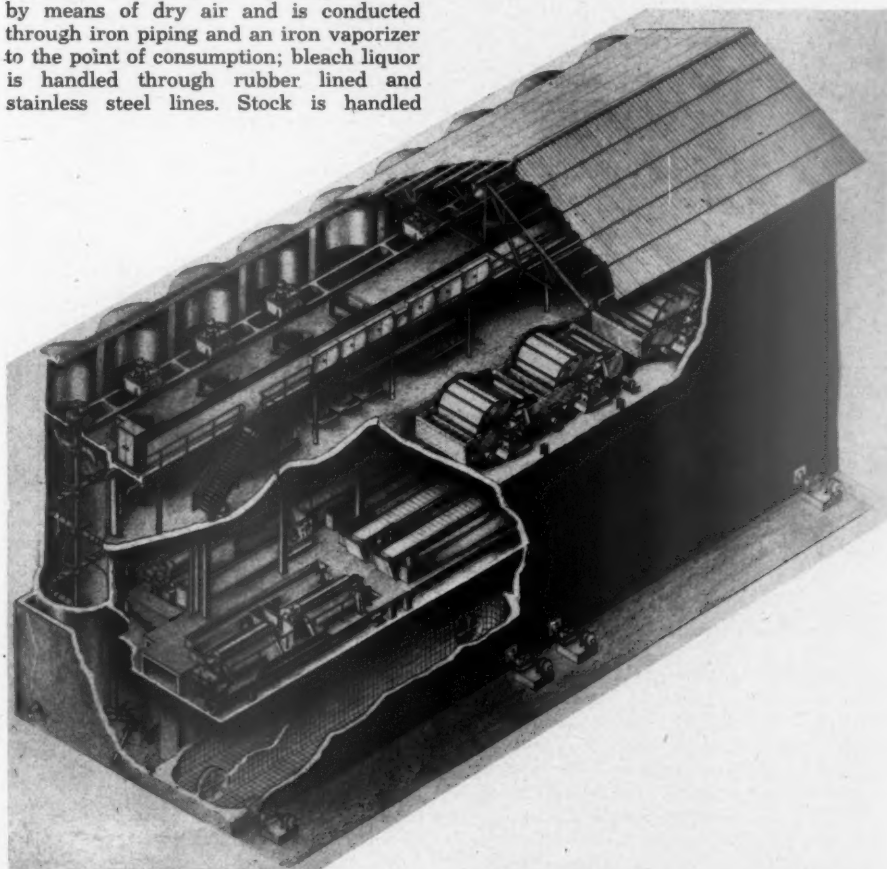
principally through wooden and stainless steel lines. Bleach making tanks, reactors, stock chests, and washers vats are all Stebbins tile-lined.

A centralized control board built by Pulp Bleaching Company is located on a gallery overlooking the entire operation. Failure of any of the electrical equipment at any point automatically shuts down the entire system and indicates the point of failure. After correction of the failure operation can be restored to its original adjustments by interlocked group starting from a single push-button station. Flows of chemicals and process water are controlled by weir boxes monitored by Bristol liquid level recorders.

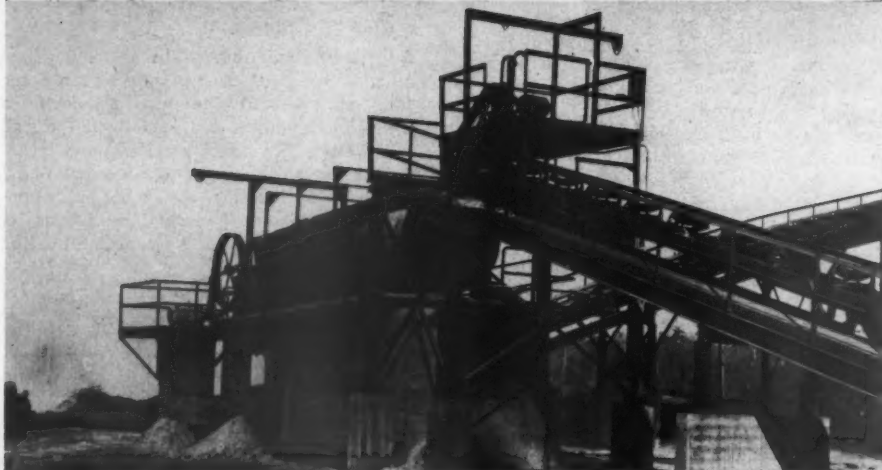
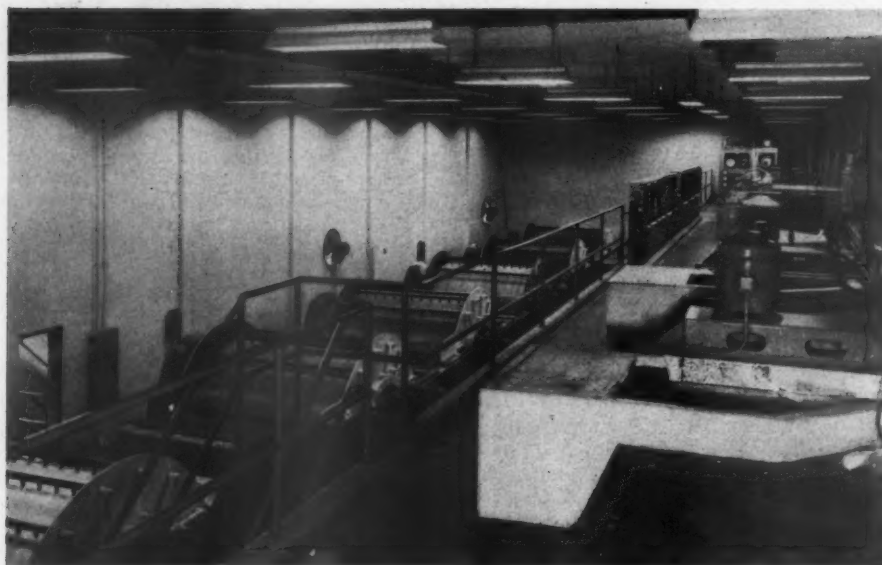
The bleach building is of hollow tile construction, windowless, and provided with fluorescent lighting. Ventilation is effected by a Ross Engineering system arranged for positive pressure inside the building and elimination of dust and soot from the intake air.

#### Post-War Expansion

Certain inadequacies in a proper balance to the mill were apparent from the 1940 period, but the furtherance of a program to completely round out the mill was delayed by the war. The early post-war program designed to augment pulp capacity to balance the potential paper making capacity included additions of four new digesters, a 200-ton Combustion



ISOMETRIC DRAWING of Gaylord Container Corp.'s bleach plant designed by Pulp Bleaching Co. of Seattle, Wash., showing stock chests and pumps on ground floor, screens and deckers on mezzanine, washers and power center on main operating floor, with control gallery above. Vertical reactor cells in top background form one wall of the building.



Engineering recovery furnace, two additional Swenson-Nyman brown stock washers, a Traylor Engineering lime kiln, an additional Reily Stoker Co. boiler, a new 7500 k.w. Westinghouse turbo-generator and other projected future expansion.

The four additional digesters are Chicago Bridge and Iron Co. units of 3.6 tons air dry capacity. Added to the present installation of 20 units to bring the number of digesters to 24, they will provide the forementioned daily capacity of sulfate pulp of 650 tons.

The new Combustion Engineering furnace has many desirable features some of which include long continued service on the line, good distribution of black liquor feed from the spray arrangement, good control over draft, and provisors of cascade evaporators for recovering heat and concentrating the feed liquor. It has also been found advantageous to replace old spray towers on other recovery units with D. J. Murray cascade evaporators. The recovery units, with this newest furnace installed, will comprise a 200-ton and a

#### VIEWS AT GAYLORD CONTAINER CORP.:

**Top**—VIEW FROM CONTROL PLATFORM of the highly flexible bleach plant, designed and equipped by Pulp Bleaching Co., Seattle, Wash., headed by Raymond P. Hill. This picture shows the washers at left, of which there are seven. Drives for reactors are in upper right. In background also is control board designed by Pulp Bleaching Co.

**Middle**—Dead reef sea shells are carried by Link-Belt conveyor to revolving scrubbers and then, as seen in this picture, to the lime kiln to produce "make-up" lime.

**Lower view**—A general view of new Traylor lime kiln, 350 feet long with seven foot internal diameter. The kiln is designed for 170 tons per day capacity.

175-ton Combustion Engineering unit, two 125-ton Babcock and Wilcox units, a 60-ton Goodell and two old 35-ton Wagners.

Washing stock with rotary vacuum washers affords many advantages over the use of diffusers. For improved efficiency, however, it was shown from results of experiments conducted at Bogalusa that two stage washing was inadequate and a greater number of stages were called for. Accordingly, this past year the two 2-stage washers were converted by the installation of two additional Swenson-Nyman washers into two lines of two washers each, giving four stages of counter-current washing. The combined capacity of these two lines is 350 tons of pulp per day, washing to 50 lbs. per ton residual saltcake with 2.8 lbs. of dilution to the liquor per pound of air dry pulp. Three batteries of diffusers of 14, 12, and 8 units respectively complete the washing facilities at the mill.

The new Reily-Stoker Co. boiler being put into operation late this year will have a rated capacity of 210,000 lbs. of steam per hour and will operate at 450 p.s.i. The combined steam rating of the mill including the new units will be approximately 1,100,000 pounds of steam per hour, generated principally at 450 p.s.i.

The turbo-generator being added to the power generating units is a Westinghouse 7500 k.w. unit, operating at 2300 volts and a power factor of 70%. Augmenting the installations now supplying the mill, it will provide for a total capacity of 40,000 k.w. to meet the general increased demands.

#### Lime Kiln Installation

Normal attrition to existing equipment and the economic advantages of producing ones' own fresh lime and reburning sludge efficiently dictated the provision of a new lime kiln which was built and installed by Traylor Engineering. Coadjuncts to the kiln are a complete system for handling shells for make-up, and a hot lime handling, and slaking system. Instrumentation and automatic control on the entire installation are provided for by Bailey Meter Company.

The new lime kiln is 350 feet long, and 8-½ feet outside diameter by 7 feet internal diameter. It is designed for 170 tons capacity daily with consumption of 8500 cu. ft. of 1100 B.T.U. gas per ton of lime.

Shells for make-up are delivered by railroad cars to a concrete track hopper and are handled from point to point by



Link-Belt conveyors fitted with Goodyear belts. From the track hopper the shells are conveyed to a revolving scrubber. The washed shells are then conveyed to a clean shell pile atop of a sunken concrete hopper from which they are further conveyed to a steel hopper which constitute the feed storage for shells to the kiln. The shells are supplied to the screw conveyor feeder at a regulated rate by means of a table feeder.

Primary and secondary air for combustion are provided by Buffalo blowers; another Buffalo blower provides for induced draft. Gas and air are automatically regulated by controls actuated from thermo-couples located at the midpoint of the kiln. Automatic regulation of draft is provided for by controls operating on the damper in the stack.

A hot lime conveyer receives the discharge from the lime kiln and delivers it to the pre-slaker where automatic regulation provides for the addition of green liquor at a rate to realize slaking at a closely regulated temperature. From the pre-slaker the lime and liquor are delivered to the rotary slaker which is of concentric cylinder construction providing for delivery to an internal shell and return pass and discharge from the external shell to the milk of lime tank for delivery by Peerless pumps to the causticizer.

### The Future

Provisions have been made for other improvements and additions to be made in the future. The wood line is to be improved and modernized. This includes the addition of a new 12 ft. by 45 ft. barking drum of all welded construction by Traylor Engineering Co. A 96 inch disc, 12-knife Carthage chipper powered by a 400 h.p. motor will add to the chipping equipment. Three additional chip screens will be added and in conjunction with this rearrangement of the chip conveyors and increase in chip bin capacity will be effected.

To meet the increased pulp production, additional pulp screening capacity will be installed in the wet room.

Cottrell precipitator units are being provided for the recovery units and will furnish a combined capacity for handling 350,000 cu. ft. per minute of gas, recovering the bulk of the chemical stack losses now experienced by the mill.

### Converter Plants

The products of the mill at Bogalusa are shipped to the numerous Gaylord converting plants producing corrugated and solid fiber boxes, bags and folding cartons. These plants, so distributed about the country so as to furnish convenient and expeditious service to the customers, are located at St. Louis, Bogalusa, Dallas, Houston, Atlanta, Tampa, Greenville, Jersey City, Milwaukee, and Oakland. Printing and specialization have been highly developed and Gaylord employs the exclusive Quanta color system of color matching on its printing designs.

In 1945 a 78 inch John Waldron asphalt laminating machine was installed in the



**GAYLORD MILL EXECUTIVES (l to r):** Alfred Suter, General Superintendent; J. M. Murray, Pulp and Paper Superintendent; B. B. Pierce, Chief Engineer; J. A. Box, Master Mechanic; D. M. Wadsworth, Assistant Pulp and Paper Superintendent.



**GAYLORD MILL EXECUTIVES (l to r):** H. J. Fail, Purchasing Agent; W. F. Gillespie, Technical Director; R. J. Cruthirds, Power Plant Superintendent; E. L. Cowan, Assistant Chief Engineer; Vincent Knight, Chief Electrician

Mill Division at Bogalusa supplanting other equipment and adding further to the diversity of products offered by Gaylord Container Corp.

### Gaylord Dividend

The Board of Directors of Gaylord Container Corp. have declared a dividend of 37½¢ a share on its common stock payable March 10, 1948, to shareholders of record March 1, 1948.

**W. T. SMITH LUMBER CO.,** Chapman, Alabama, has purchased an Orrmell log barker from Fibre Making Processes, Inc., San Francisco and Chicago.

Whole pine logs will be debarked by the machine and the bark-less slabs will be converted to chips and sold to pulp mills.

**THE BUCKEYE COTTON OIL CO.,** a subsidiary of Proctor & Gamble, has acquired additional property for its Chemical Pulp Division plant in Memphis, Tenn., and will utilize the space for expansion of its research and production. The mill now produces about 250 tons per day of cotton linter pulp, and 125 tons of saturating papers, filters, etc.

**BROWN PAPER MILL CO., INC.,** Monroe, La., has been granted a ten-year ad valorem tax exemption for expansion facilities, according to the Louisiana Department of Commerce and Industry. The exemption applies to \$4,533,964 in improvements that will create employment for 84 additional persons.

**BRITISH COLUMBIA** forests can easily support 15 pulp mills, according to Minister of Lands and Forests E. T. Kenney, who said many of these mills could be operated on cull logs and forest debris.



**Fred E. Augustine (left),** Board Mill Supt. at Gaylord, and **Niels H. Seirsdale,** Works and Office Mgr.

### Extraction of Cooking Fat From Pulp Residue Possible

Extraction of edible cooking and frying fats from U. S. forests is now technically feasible through a new separation process for tall oil, by-product of the pulp industry, according to John H. Hinman, president of the International Paper Co. A large chemical plant is now being built at Panama City, Fla., to separate tall oil into its component parts—vegetable fats and rosins. The plant is being built by the Arizona Chemical Corp., owned jointly by International Paper and the American Cyanamid Co. at a cost of \$1,700,000.

Of the 22,000 tons which the plant will start processing early in 1949 the company will obtain approximately half the amount of vegetable fats and half in rosins. While the production of foodstuffs is technically feasible, it is unknown if it would be economically efficient, said Mr. Hinman. Meanwhile the vegetable fats will be used by soap manufacturers and other industrial users.





AT HEAD TABLE AT APPA Banquet (l to r): ALEXANDER CALDER, Pres., Union Bag Paper Co.; E. E. GRANT, Crystal Tissue Co., reelected President of the Tissue Assn.; GEORGE SISSON, JR., Raquette River Paper Co.; JAMES L. MADDEN, Pres., Hollings-

worth & Whitney; PETER S. PAINE, New York & Pennsylvania Co.; WALTER D. FULLER, President, Curtis Publishing Co.; F. L. MITCHELL, Canadian Pulp & Paper Assn. Mr. Madden is Vice-President of APPA.

# PAPER WEEK REVIEW

## Forecast for 1955—30,000,000 Tons

A fresh eastern seaboard blizzard did not deter more than 1,500 pulp and paper men from converging in New York on Feb. 23 for the 1948 Paper Week.

Seventeen affiliate groups of the American Paper and Pulp Association convened at the Waldorf Astoria to elect new officers and hold their annual meetings, while TAPPI—strengthened by a gain of 373 new members over last year, and now with 50 corporate members in foreign lands—took up its customary stand at the Commodore Hotel.

APPA's formal banquet on the 26th in the Waldorf's Grand Ball Room climaxed the week's events, when industry leaders heard addresses by John Hancock, industrial leader, and retiring president Reuben B. Robertson — and welcomed the new APPA president, Cola G. Parker, president of Kimberly-Clark Corp., Neenah, Wis. Mr. Parker is a trustee of the National Industrial Conference Board, a director of NAM, director of the Wisconsin Manufacturers' Association, a director of the Port Washington National Bank, and a trustee of Lawrence College. His election follows an APPA tradition of electing a top man not only in his own industry but among all U. S. industry.

Mr. Robertson, president of Champion Paper & Fibre Co., pointed out that the paper industry is now leading all

### OUR COVER PICTURE —

—shows some of the directors of American Paper & Pulp Association and their guests at the final banquet of 1948's Paper Week in the Grand Ballroom at the Waldorf-Astoria, New York. Others are in pictures on these pages.

In the cover picture, those shown are:

Top Row—E. E. Norris of the Southern Railways; John Hancock, Lehman Brothers, guest speaker; Reuben B. Robertson, of Champion, retiring APPA president; R. H. Fowler, Canadian Pulp & Paper Association.

Middle Row—D. K. Brown, Neenah Paper Co., former APPA president; Roy S. Ferguson, St. Regis, new APPA first vice president; F. G. Coburn, Brown Co., APPA vice president; Cola G. Parker, new APPA president.

Lower Row—R. G. Luff, National Paper Trade Assn.; George Wallace, Fitchburg Paper Co.; Sydney Ferguson, Mead Corp., APPA vice president; R. A. McDonald, Crown Zellerbach Corp., also an APPA vice president.

others in the amount of capital invested per worker, and need not fear that continued production would produce a slump. Capital investment per worker has now reached \$18,500, he said, "and despite all

the new capacity, the public is still—by all the yardsticks we can find—buying all we can make. I think we have nothing to fear from expanded capacity, beyond a return to active salesmanship."

Mr. Hancock, partner in Lehman Brothers and former member of the U. S. delegation to the UN Commission on Atomic Energy, told of the difficulties—chiefly imposed by Russia—of controlling or outlawing The Bomb. He stated that he was not opposed to use of The Bomb for "preventing aggression."

R. K. Ferguson, president of St. Regis Paper Co., was elected first vice president of the APPA. Other vice presidents announced are: Hugh J. Chisholm, president of Oxford Paper; F. G. Coburn, president of Brown Co.; Sydney Ferguson, president of Mead Corp.; John H. Hinman, president of International Paper Co., and David L. Luke, president of West Virginia Pulp & Paper Co.

For TAPPI, the annual luncheon on the 26th, ended its program. The luncheon taxed the huge capacity of the Grand Ball Room at the Commodore, tables being pushed to the four walls. Re-elected President Wilbur F. Gillespie, technical director of Gaylord Container Corp., proved a witty and entertaining toastmaster. He announced that the TAPPI Gold Medal, which was to have been awarded by Dr. Harry Lewis to Dr. Emil

MORE AT APPA HEAD TABLE (l to r) RAYMOND E. BENNETT, Ecusta Paper Corp., President of Superintendents; H. O. NICHOLS, Crown-Zellerbach Corp.; R. V. WILLIAMS, Chicago Northwest Railways; E. W. (Ted) TINKER, Secretary-Manager of

APPA; EDWARD J. EDWARDS, new President of Salesmen's Assn.; DON LESLIE, Hammermill Paper Co.; A. E. CADMAN, Canadian Pulp and Paper Co. Mr. Leslie is a Vice-President of APPA.





Forest Industry Information Council meeting at PAPER WEEK (l to r) TOBY MOORE, Southern Pine Assn.; DON RO-CHESTER, American Forest Products Industries; H. E. BRINCKERHOFF, American Pulpwood Assn.; FRED MORRELL, APPA; HENRY BARR, National Lumber Mfg. Assn.; MRS. K. G. MCCOY, clerical secretary; JOHN McAFEE, Secretary of FIIC of APPA; W. D. HARRIGAN, Scotch Lumber Co.; E. W. TINKER, Secretary, APPA; SYDNEY FERGUSON, President of AFPI; C. O. BROWN, International Paper Co.; CARL A. SWENNING, Hollingsworth & Whitney; C. L. BILLINGS, Potlatch Forests; STUART COPELAND, The Northwest Paper Co.; ROBERT W. LYONS, representing Charles Sage, Kimberly-Clark; and STEW-ART MOIR, Western Pine Assn.

F. F. Heuser—whom Gillespie characterized as “a great scientist and teacher and a scholarly gentleman”—will be awarded to Dr. Heuser, now in San Diego, by the Pacific Coast section of TAPPI “at some convenient future time.” Dr. Heuser recently retired from active work at the Institute of Paper Chemistry. A world renowned authority on cellulose, he is the 16th person in 21 years to receive the necessary virtual unanimous vote of TAPPI’s executive committee to win the award.

At the head table were members of the executive committee: John Davis, Dr. Werner Kauffman, J. W. Hemphill, Allan Hill, George Ravender, James Clark and John Hanson.

Also introduced by President Gillespie were the newly elected members of the executive committee: Harold E. Bialkowski, Weyerhaeuser Timber Co., Everett, Wash.; Frederick C. Goodwill, St. Regis Paper Co., Deerfield, N. Y.; Willis B. Lincoln, Jr., Inland Container Corp., Indianapolis, and Albert L. Sherwood, vice president Sutherland Paper Co., Kalamazoo. The new TAPPI vice president, Albert E. Bachmann, Missisquoi Corp., Sheldon Springs, Vt., had been called out of New York and could not be introduced from the speaker’s table.

Vertrees Young, executive vice president of Gaylord Container, Bogalusa, La., was introduced by his associate, President Gillespie, and in turn introduced the principal speaker, Brigadier General W. E. Brougher, U. S. Army, veteran of the Wainwright experience, whose address was titled “Beware of False Prophets” and who urged the learning of the lessons of the war.

#### Affiliates’ Presidents

At the Waldorf the APPA affiliates elected the following 1948 presidents:

E. E. Grant, Crystal Tissue Co., re-elected by The Tissue Association; Paul Hogdon, Deerfield Glassine Co., Glassine and Greaseproof Paper Manufacturers Association; W. P. Patterson, The Specialty Paper Co., the Waxed Paper Institute; L. D. Nicholson, District of Columbia Paper Mills, Blotting Paper Manufacturers; James Conley, Fraser Paper, Ltd., the Groundwood Paper Manufacturers Association; William B. Snow, Middlesex Products Corp., re-elected by the Coated and Processed Paper Association; M. D. Bardeen, Lee Paper Co., re-elected by the Writing Paper Manufacturers Association; John L. Hobson, St. Croix Paper Co., re-elected by the Newsprint Manufacturers Association, and George Stuhr, Southern

Kraft Division of International, the Sulfite Paper Manufacturers’ Association.

The U. S. Pulp Producers named its regional directors: Downing P. Brown, Brown Co., for New England; Norman W. Wilson, Hammernill Paper Co., Middle Atlantic; David Graham, West Virginia Pulp & Paper Co., South; W. M. Wright, Kimberly-Clark, Lake States, and L. K. Larson, Weyerhaeuser Timber, Pacific Coast. Directors at large are: Alexander Calder, Union Bag; Willard J. Dixon, St. Regis; Amor Hollingsworth, Penebscot Chemical Fibre; John E. Hyde, S. D. Warren; Stuart E. Kay, International Paper; W. S. Lucey, Rayonier; James L. Madden, Hollingsworth & Whitney; John Stevens, Jr., Marathon; Lawson Turcotte, Puget Sound Pulp & Timber, and Rufus I. Worrell, Mead Sales.

Among the many meetings at the Waldorf was the American Forest Products Industries dinner chairmanned by its new president Sydney Ferguson, Mead Corp., and the fifth annual session of the National Stream Improvement Council at which George E. Dyke, president of Robert Gair Co., Inc., was elected chairman of the board.

#### Engineers’ Group Praised

W. F. Gillespie, president of TAPPI and technical director of Gaylord Container, opened TAPPI’s convention on the

PART OF APPA’S HEAD TABLE (l to r): CRANSTON WILLIAMS, American Newspaper Publishers Association; A. W. STOMPE, Marathon Corp.; GEORGE OLMSTED, JR., S. D. Warren Co.; A. SOUTON, Kalamazoo Vegetable Parchment Paper Co.; ED-

WIN S. FRIENDLY, American Newsprint Assn.; DWIGHT STOCKER, Michigan Paper Co. of Plainwell; W. F. GILLESPIE, Gaylord Container Corp. and President of TAPPI.







Forestry meeting of APPA (Front row): PETER WATZEK, Crossett Paper Mills; TED TINKER, Secretary, APPA; W. J. DAMTOFT (Chairman of the session), Champion Paper & Fibre Co.; CHARLES SAGE, Kimberly-Clark. (Back row) HERMAN SCHANCKE, Brown Co.; J. L. CAMP, Camp Mfg. Co.; JAMES L. MADDEN, Hollingsworth & Whitney; PAUL KOENIG, P. H. Glatfelter Co.; STUART COPELAND, Northwest Paper Co.

23rd with an address carrying a moving eulogy of the late Worthen Brawn who died in office and whose gavel Mr. Gillespie took up last year. Mr. Gillespie modestly referred to himself as "a substitute"—but if this was true, the 1948 Paper Week corrected it, for he was returned to office unanimously.

Mr. Gillespie issued a number of commendations in his address. He took particular note of the growth of the engineering division and mentioned ex-president Gunnar Nicholson and committee chairman J. W. (Bumps) Hemphill specifically as having a great deal to do with the revival of engineer interest in TAPPI. Also, he invited particular attention to the 1949 fall meeting of TAPPI to be held in the Pacific Northwest in August of that year, as well as the meeting of the engineering division to be held next October 25-28 in Buffalo. Spotlights, too, was the program of the fundamental research committee to be held in Madison, Wis., on the subject of "Physical Properties of Wood Components" the third week in August.

Mr. Gillespie went on to commend the work of the allied membership and to publicly record himself as appreciative of the work of Secretary Macdonald and his office. He then reported the decision of the executive committee to publish TAPPI's own scientific journal. The "official organ" of TAPPI has heretofore resided in an independently owned and published magazine.

The general TAPPI meeting closed with a report from L. C. Jenness on the De-

partment of Industrial Cooperation at the University of Maine and a discussion of the workings of the U. S. Patent Office by Lawrence C. Kingsland.

#### Paper Imports Increasing

Further uptown, at the Waldorf, Mr. Robertson was opening the program which included not only meetings of APPA committees, but also executive board meetings of the Association of Pulp Consumers, the Sulfitte Paper Manufacturers group, The Tissue Association, the Writing Paper Manufacturers group, and the U. S. Pulp Producers Association.

One of the highlights of the opening sessions of the Waldorf meeting was the assertion by Warren B. Bullock, Import Committee, that "foreign producers are getting a hold in the American market from which it may be difficult to dislodge them when the era of paper shortages has disappeared." He pointed out that imports of dutiable paper rose to \$18,000,000 in 1947 as compared with \$8,000,000 in 1939 and \$11,000,000 in 1946. Imports of krafts in 1947 almost doubled those of the previous year. Other grades, he pointed out, showed similar significant rises.

"It is interesting to note," he said, "that some of the wrapping paper imports in 1947 have been invoiced at prices hardly above those of the pulp."

Mr. Bullock said that advices from Washington indicated that ERP, crystallized as the Marshall Plan, will not seriously affect the industry. Little or no paper or pulp is to be allocated to foreign mills, he said.

Regarding international trade agree-

ment, Mr. Bullock stated that many industries are already on record "as planning to vigorously oppose any measure which will continue the trade agreement program in anything like the present form." He pointed out that in the entire tariff schedule pulp, paper and paper products form the largest single item of imports. The changed financial structure of many countries, he said, have had their effects on Canada, France, Australia and created additional opportunities to sell cheaply in the U. S. market. He reminded APPA members that at Geneva the draft of a charter provided for some radical changes in American tariff law administration, to ease the restrictions now existing on imports in foreign merchandise. The changes will require legislation, he pointed out. Fifty nations are conferring at Havana now to work out the complete charter, he added.

Attention to world agreements was typical of the larger problems of the industry focused upon at the Waldorf meetings of the APPA. The subjects included pulp and pulpwood supply, forestry, and broad problems affecting segments of the industry. As usual these were taken up through meetings of groups affiliated with the APPA.

#### Technical Discussions

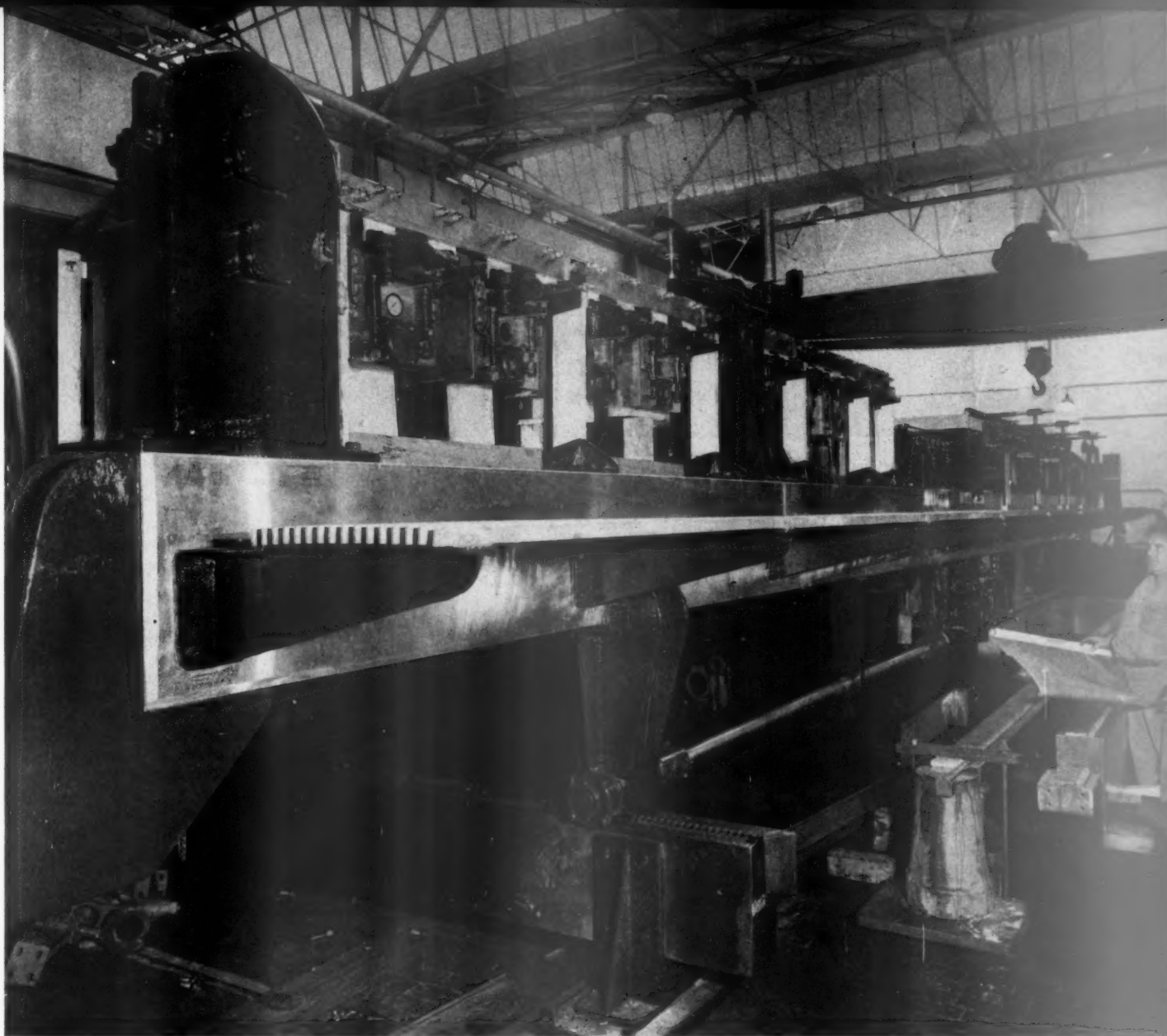
Meanwhile, on this first day, meetings attending to the more specific technical aspects of the pulp and paper industry were starting forward at the Commodore with a session on "Micrological Control Methods" with J. W. Appling, Buckman Laboratories, as chairman. This

PAPER WEEK PARTICIPANTS (l to r): J. S. SCHUERMAN, Cameron Machine Co., who guided a tour of mill men through the Brooklyn plant; F. H. FROST, S. D. Warren Co., who discussed the air knife method coating in the Coating Session; CARL MELENBACHER spoke on "Smoothness" in the panel discussion of quality requirements of folding boxboard in the Papermaking (Cylinder) session; LOGAN HERBERT, President of Midwest-Fulton Machine Co., Dayton, O.; GERALD HAYWOOD,

West Virginia Pulp & Paper Co., talked about coating paper on the paper machine; JOHN F. HALLADAY, consultant of Elkhart, Ind., was a member of the Quality panel in the Paper Making session and discussed special printing requirements; BYANT W. LANGSTON, Samuel L. Langston Co., was an interested spectator at "Paper Week" events; FRANK J. HOAR, G. D. Jenness Co., Watertown, N. Y., talked on modern practice in sulfite mill acid and recovery plants.







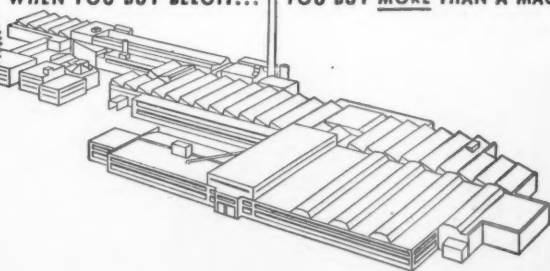
## Insurance against shutdown

Many machine shutdowns and wire losses can be prevented by such insurance as stainless cladding on the main beams and cross-ties of this Beloit 246" removable fourdrinier, photographed on our erecting

floor. Oscillating stainless steel full-depth suction boxes are another patented Beloit engineering advantage that pays dividends in high-speed production. *Beloit Iron Works, Beloit, Wisconsin.*



WHEN YOU BUY BELOIT... YOU BUY MORE THAN A MACHINE!



# BELOIT

## PAPER MACHINERY



The New Look at 1948 PAPER WEEK, some of new faces among older participants (l to r): K. W. FRIES, Rhineland Paper Co.; A. T. LOEY, American Coating Mills; R. A. DIEHM, Ward Paper Co.; PHILIP B. TAFT, Resinous Products, MILTON YEOMAN, Rogers Corp.; SAVAGE L. FRIEZE, JR., J. E. BRAY, JR., and MALCOLM B. LOWE, JR., all of Lowe Paper Co.

centered around a paper called "Foaming Properties of Various Chlorinated Phenols," by C. R. Haeefe, Eastman Kodak Co., Rochester, N. Y. Mr. Haeefe concerned himself with the use of Dowicide G as a microbicide in condition units, humidifying units, and beaters, and the sometimes possible foaming thereby. Investigation showed that contributing causes were the pH of the water and concentration of the chemical. Dowicides A, B, C, D, E and F were also tested. Simple foam tests showed a considerable difference in foaming ability. Said the speaker: "It is felt that by use of a table which gives the foaming properties at different pH values and the pH at which precipitation occurs, the specific microbicide can be selected from its category to better advantage."

This paper was followed by a panel discussion on the evaluations of toxicants for use in the industry, and parallel with this session the "Container" men were opening fire in the East Ball room under the chairmanship of W. B. Lincoln, Jr., Inland Container Corp., who took part in the program with a report on the testing program of the Shipping Container Institute. J. H. Toulouse and Paul J. Barcus of the Owen-Illinois Glass Co. reported on their load concentration studies as to corrugated paper.

In this same session a paper by B. F. Shema, Institute of Paper Chemistry, was given by title—describing a war development whereby an inoculum of a fungi (*Chaetomium globosum*) is placed in a

cut-out from the center of a specimen board which is then sealed on both sides with the sample board in a sandwich arrangement. The time and extension of the penetration was noted during an incubation period. This was of help in determining a carton's resistance to the penetration of fungi in war food packages for the Services.

The Mullen test has been used for years and an almost constant discussion has ranged around it. In an effort to settle some of this discussion the Institute of Paper Chemistry, for two of its sponsors—the Fourdrinier Kraft Board Institute and the Jute Research Group—is making an extensive study and R. C. McKee, Carlton Root and Lewis B. Ayers, all of the Institute, presented to Paper Week a progress report on the variables of the Jumbo Mullen Tester. So far found:

Accuracy of the pressure gauges may be influenced by the bursting strength results; pressure required to extend the rubber diaphragm is both a significant and a variable factor and a standardization of procedure would be advisable; a variation of 30 to 35 cc/min. in the pumping rate is required to produce approximately a 1% change in the test results, and it is advisable to exclude all air from the hydraulic system.

On the 25th the Graphic Arts session opened with R. H. Stimmons of the government printing office as chairman. Here the visiting pulp and paper men heard experts from other fields discourse on reproducible gloss standards, printability

testing, the relation of paper and ink in high speed printing, and printing ink research problems.

### Sulfite Pulping

At the same hour George H. McGregor, Minnesota and Ontario Paper Co., rapped the gavel on his traditional Acid Pulping Session which led off with "Sulfite Semichemical Pulping of Chip Screenings" by Lyle C. Jenness, University of Maine, and George L. Nystrom, Eastern Corp., which was followed by a preview of the status of by-products from sulfite pulping by Dr. Harry Lewis, Institute of Paper Chemistry.

Messrs. Jenness and Nystrom presented results obtained by the digestion of various size chip screenings with sulfite acid. While the cooking medium was acid in all cases, a comparison between the presence of ammonium and calcium bisulfite was obtained. Yields of 70% were reported with little difference in yield resulting from calcium and ammonium base acids. It was reported that the required cooking time is an inverse function of the acid strength. Resulting fiber is satisfactory for wrapper, liner or board, the paper revealed.

Frank J. Hoar, G. D. Jenssen Co., Waukegan, N. Y., presented "Modern Practice in Sulfite Mill Acid and Recovery Plants." He gave an outline of the process arrangement for sulfite acid preparation. Mr. Hoar stated that countercurrent absorption towers, at atmospheric and higher pressures, offer this control in the

PAPER WEEK SPEAKERS (l to r): ROY P. WHITNEY, Monsanto Chemical, talked on the solubility of sulfur dioxide in ammonia-base sulfite solutions; A. H. NADELMAN, International Paper Co., presented de-inking studies to the Pulping session; Joseph L. McCARTHY, Dept. of Chemical Engineering, University of Washington; "Composition Changes Occurring During Vacuum Evaporation, Steam Stripping, and De-Ashing of Ammonium Sulfite Waste Liquors"; HARRY F. SCHENK, Magnus

Metals, is always a familiar figure at Paper Week; C. S. MAXWELL, American Cyanamid, told of the effects of salts on the melamine resin wet strength paper process; W. F. REYNOLDS, associated with Mr. Maxwell in above paper; KENNETH BOWERS, Glens Falls Laboratory, told the mill men of his gloss indicator; JOHN K. ROBINS, Mason-Neilan Regulator, told of control valves and positioners.







PAPER WEEK SPEAKERS (l to r): NOEL PHILLIPS, Hollingsworth & Whitney Co., delivered "The Effect of Fourdrinier Operation Variables as Related to Sulfite Papers"; JOHN F. CAMPBELL, Flintkote Co., chairmanned the Structural Fibrous Materials session; K. M. BRITT, Scott Paper Co., chairman of the Wet Strength session; FRITZ KLEIN, Byron Weston Co., discussed stock preparation affecting forma-

tion in the Paper Making (Fourdrinier) session; HARRY LEWIS, director of Institute of Paper Chemistry; B. E. LAUER, University of Colorado; ROBERT MISPLEY, Central Technical Dept., Crown-Zellerbach Corp., Camas, Wash., told the convention about the solution of training problems on the West Coast; DOUGLAS McMURTRIE, Brown Co., discussed the nitration of wood pulp in the Research Development session.

preparation of raw acid and cooking acid. Raw acid, he pointed out, is prepared by the acid plant while the cooking acid is a product of the recovery plant. Mr. Hoar presented a very revealing discussion of the economics of acid making. He stressed that acid storage should not be affected by atmospheric conditions. Cooking acid should be of any desired chemical balance or composition and retain recovered raw materials from the cooking process. Acid making, said he, should be a closed cycle process.

John F. Inderdohnen, Chemipulp Process, Inc., outlined recent developments in sulfite pulping since 1940 and 1942 with reference to the forced circulation sulfite digesters. He stated that some mills—such as Ontario Paper Co. and Spruce Falls Power and Paper—are producing as much as 50% more pulp per digester due to the use of such systems.

Parallel with the Acid Pulping session the papermakers were under way behind the leadership of Chairman B. E. Kassing, New York State College of Forestry, led off by Noel Phillips, Hollingsworth and Whitney, with "The Effect of Fourdrinier Operating Variables as Related to Sulfite Papers." Fritz Klein, Byron, Weston Co., talked on "Stock Preparation Conditions Affecting Formation" and T. M. Barry, Fraser Paper, Ltd., on "Stock Preparation Effects on Formation."

Tuesday afternoon offered variety for the more than one thousand visitors with B. E. Lauer, University of Colorado, leading a session on "Vocational Training"; Herman Mark on "Resins and Plastics," and E. C. Jahn on "Plastics" alone. Notable in the vocational training session were papers by F. A. Olmsted, Crown Zellerbach Corp. ("Problems and Solutions in Training on the West Coast"—

### Fine Paper Made From Wheat Straw

A process for producing fine paper pulps from wheat straw, at lower chemical costs and in significantly higher yields than previously thought possible was a highlight of TAPPI's session.

The Agricultural Residue Division of the Department's Northern Regional Research Laboratory at Peoria, Ill., headed by Dr. E. C. Lathrop, has perfected the process after several years' study and a number of industry men have seen and praised the sample products, PULP & PAPER was advised prior to the New York meeting.

When it is considered that 95 million tons of wheat straw was grown last year and that the straw burned and wasted would have been sufficient to produce 20 million tons of cellulose pulp, this country's entire requirement, the implications of this work are great, according to these observers.

The Peoria process produces yields of 50 per cent of screened, bleached pulp. This is 5 to 10 per cent higher than other processes operating on straw or most processes using wood. The cost of procuring clean straw has been a stumbling block in the past. Members of the strawboard industry and manufacturers of farm equipment have met to perfect better methods and means for securing clean dry straw at lower costs.

presented by Robert Misphey); J. H. Groves, Union Bag & Paper Co. ("Industrial Training at Union Bag"), and Harold M. Annis, Oxford Paper Co. ("What Industry Expects of Educational Institutions").

### Research Development

On the same afternoon Roy P. Whitney, Institute of Paper Chemistry, chairmanned a meeting of "Research Development." It was led off by Milton O. Schur's and Douglas H. McMurtrie's paper "Nitration of Wood Pulp." The two men, from Ecusta Paper Co. and Brown Co.,

respectively, reviewed the huge demands during war for smokeless powder from wood pulp. It was indicated in this paper that the behavior of pulp in the acid wringer and of the beaten nitrocellulose in the poacher can be predicted from a determination of the number of fibers of pulp per unit volume of test sheet: The lower the number, the more suitable the pulp.

Interesting was the paper by Aaron E. Markham, Quintin P. Peniston and Joseph McCarthy of the University of Washington on "Composition Changes Occurring During Vacuum Evaporation, Steam Stripping and De-ashing of Ammonium Sulfite Waste Liquors," the result of a project well known on the West Coast, and treated heretofore in PULP & PAPER. The same men submitted "The Pyrolysis of Ammonium Sulfite Waste Liquor to Yield Ammonia" which discussed a method proposed in literature for the recovery of ammonia base sulfite waste liquor which has been investigated experimentally. Conditions are found under which around 90% of the ammonia can be recovered. These conditions include the use of temperature of around 600 degrees C or over, a humid gas to sweep out the volatile products and, preferably, a rapid rate of heating. Sulfur is collected in the absorbers in a form that is not directly reusable and may complicate the reuse of the ammonia, it was stated.

At this session, D. E. Marriner, Monsanto Chemical Co., and Roy P. Whitney discussed "The Solubility of Sulfur Dioxide in Ammonium Bisulfate Solutions" and concluded that experiments show that comparison of the data with the lime base process indicated a generally similar behavior.

"The Solubility of Sulfur Dioxide in

PAPER WEEK SPEAKERS (l to r): W. S. YUNKER, Foxboro Co., talked on flow measurement and control; NORMAN COLLINS, Taylor Instrument, on methods of measuring liquid levels; JOHN CHANDLER, Bristol Co., gets set to deliver his paper on temperature measurement and control; HAROLD A. SCHOLL, Brown Instrument,

spoke on continuous measurement of sheet moisture; S. I. ARONOVSKY, chairman of the Fibrous Agricultural Residues Session; T. A. PASCOE, Nekoosa-Edwards Co., was chairman of the lively Statistics forum; R. G. MACDONALD, Secretary of TAPPI; W. F. GILLESPIE, President of TAPPI, and Technical Director of Gaylord Container Corp., Bogalusa, La.



Calcium Bisulfite Solutions" was presented by C. K. White, Jr., Hercules Powder Co., with J. E. Vivian and Roy P. Whitney. Examination of the results of this research indicate that, in the two-phase region, the sulfur dioxide pressure is directly proportional to the "true free" sulfur dioxide concentration of the solution. Excellent agreement with the relationships proposed by Beuschlein and Conrad was obtained.

On the same afternoon there was the session on "Pulping" under the chairmanship of John A. Hanson, Badger Paper Mills. Dr. Robert S. Aries, Polytechnic Institute of Brooklyn, led off with "Pulping Southern New England Hardwoods." W. A. Beman and H. E. Corbin, Socony Vacuum Oil Co., followed with "Effect of Petroleum-Base Additives in Pulp and Paper Making" which stressed the renewed interest in additives and pointed up the effect of an emulsified petroleum base processing aid. It has been used with considerable success on a mill basis in sulfite pulping including particularly the Mitscherlich process.

#### Deinking Studies

F. A. Simmonds, Ralph Kingsbury, and Earle S. Lewis, all of the Forest Products Laboratory, gave some observations on the bleaching of groundwood pulps; and their associates, J. N. McGovern, G. E. Mackin and G. H. Chidester, went into "Production of Liner Boards from Jack Pine and Hardwood Semichemical Pulps." H. P. Bailey, A. H. Nadelman and E. F. Andrews, International Paper Co., gave the third of a series of deinking studies, a survey of a production system by screen analysis. Results show that 77% of deinking and defibering was accomplished during the initial disintegration and only 21% during subsequent cooking. It was said that mechanical action did not pro-



ON CAMERON MACHINE CO. TOUR in Brooklyn, N. Y., a TAPPI group looks at the giant Camachine Type 20. Two mill men in the foreground of the large picture are James Wise, Vice-Pres. and Supt., Kalamazoo Paper Co., and George Pringle (he is on extreme left), Mead Corp.'s Chillicothe Division Engineer and Chairman of the important Mill Maintenance and Materials section of TAPPI's Engineers Committee. At right, inspection followed of the lifting mechanism on the Camachine Type 20 a 266-inch trim machine for Bowater's. It is electric-air operated on cutter bar and levers, allows speeds up to 4500 feet per minute, has push button controlled motor-driven riding-roll lift and roll ejector plus other exclusive Cameron features.

duce any significant portions of fines.

A reflection of the international tone given Paper Week was appearance of a paper by title by M. Vilars, S. A. Pape-tries Darblay, Paris, France, on mechanical pulping.

The session on Fibrous Agricultural Residues, chaired by S. I. Aronovsky, Northern Regional Research Laboratory, had begun on Tuesday morning and continued in the afternoon—the only all

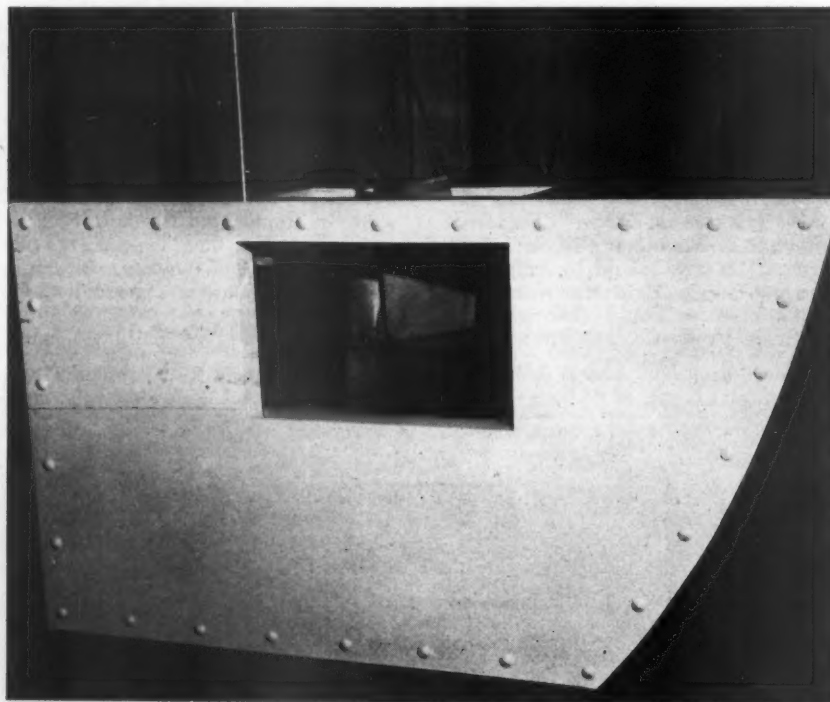
day session. Participating was the president of TAPPI himself, Mr. Gillespie, whose paper dealt with "Arundo Donax Pulp." This is a subject to be made part of the theme of PULP & PAPER's 1948 North American Review Number, and here will be noted only the titles of the papers and their authors: "Neutral Sodium Sulfite for Digesting Straw for Corrugating" by B. F. Stahl, Terre Haute Paper Co., Terre Haute, Ind.; "Combined Wheat Straw Again Injurious to Clover Seedlings" by C. J. Willard, Ohio Agricultural Experiment Station, Columbus, Ohio; "Anaerobic Decomposition of Strawboard Wastes" by Don E. Bloodgood and J. C. Hargerod, Prudue University; "Agricultural Residue Pulps" by S. I. Aronovsky, A. J. Ernst, H. M. Sutcliffe and G. H. Nelson, Northern Regional Research Laboratory, Peoria; "Agricultural Residue Pulps—High Yield Straw Pulps for Fine Papers" by S. I. Aronovsky, G. H. Nelson, A. J. Ernest, H. M. Sutcliffe, E. C. Lathrop, Northern Regional Research Laboratory; and "Further Progress in Continuous Pulping" by R. G. Goodwin, Paper and Industrial Appliances, Inc.

#### 30,000,000 Tons by 1955

Up at the Waldorf, APPA President Robertson and Secretary-Manager E. W. Tinker were guiding the opening meetings to the echo of the statistical committee's report that the U. S. industry would probably reach 22,000,000 tons production this year and 30,000,000 tons by 1955. And, said the committee, an increase of capacity of 1,500,000 tons could come to pass this year—over the expected total of 22,000,000 to 23,000,000 tons.

Fifteen hundred salesmen enjoyed

WET STRENGTH KRAFT BAG demonstration in the Wet Strength session at "Paper Week."







Local Section Officers of TAPPI convene with Chairman K. P. GEOHEGAN of Dayton, Vice-Pres. of Howard Mills of Ohio (left foreground in dark suit), in the Commodore. He heads up Sections committee for TAPPI.

themselves at luncheon, listening to Congressman Fred Hartley on the Taft-Hartley Labor Law, and seeing Edward J. Edwards, Howard Paper Mills, take over as president of the salesmen's group from E. F. Miles of Crocker-McElwain.

### Wallboard and Building Board

Back at the Commodore on Wednesday morning TAPPI went to work on "Structural Fibrous Materials," chairmanned by John F. Campbell of Flintkote.

The tremendous new interest in wallboard in the U. S. gave extra impetus to this interesting session which led off with "A Comparison of Several Freeness Testers on Board Stock" by C. E. Hrubesky of Forest Products Laboratory. Schopper-Riegler regular, Schopper-Riegler modified, Canadian Standard, Oliver, and Fir-Tex testers were used, values being obtained on a free, normal and slow stock from each of seven board manufacturers. Results shown in tables and curves appeared to indicate that no exact correlation exists between the freeness values obtained by the different instruments used. With different furnishes on one or different machines, the paper said, it is believed that a value based on drainage time or weight of pulp required for constant change in drainage rate might give a closer correlation than values based on the divided-funnel type of instruments.

E. A. Behr, Chapman Chemical Co., told of "Preservation of Fiber Insulating Board with Chlorinated Phenols." Test plots have been maintained by his company and Dow Chemical Co. at Bogalusa, La., and at Jacksonville, Fla., and there various preservative treatments are tested for resistance to decay and termite attack. It was found, among other things, that board prepared from aspen groundwood, southern pine groundwood, waste paper, western softwoods semi-chemical, sugar cane waste, and a British pulp, all were preserved about equally by a given concentration of chlorinated phenol. Untreated board showed no particular resistance. But pentachlorophenol-treated board using 0.8% based on the dry weight of the board can be expected to last five to ten times as long as untreated board. Equivalent protection can be obtained with half as much copper pentachlorophenolate.

"Test Apparatus for Determining Resistance to Impact and Concentrated Loads

of Structural Insulating Board" was given by M. H. LaJoy and Frank B. Rowley, University of Minnesota. Investigation showed that the method of supporting the test specimen and the size of the specimen was not as important for the concentrated load test as was the case for the impact strength test. They offered details of a suggested apparatus and stated they would be open for suggestions from the use of the apparatus in the field. E. C. Lathrop and T. R. Naffziger, NRRL, Peoria, told of their evaluation of fibrous agricultural residues for structural building board, describing the equipment and methods used at the Northern Regional Research Laboratory. It was definitely suggested that the impact strength of commercial wood pulp insulating boards is low in comparison with boards made from bagasse or wheat straw, due to the long tough fibers, and it was indicated that impact strength might be increased in wood board by the addition of properly incorporated wheat straw or bagasse long fibers. Griffith S. Clark, Homosote Co., delivered "Use and Abuse of Fiberboard in Modern Construction" stressing the necessity of selling the right type of board for specific use, and of adequately informing the buyer as to construction methods best suited to the board.

"Coating" and "Water" sessions were all-day discussions on Wednesday. Frank J. Egan, consulting engineer, was chairman of the former, and Lewis B. Miller, University of Cincinnati of the latter.

### Coating Session

In the coating session, J. P. Casey, A. E. Staley Co., and C. E. Libby, New York State College of Forestry, presented "A Study of Penetration of Starch Adhesive in a Coating Mixture into a Base Paper." They discussed the factors which affect the penetration of the adhesive, and, second, the relationship between the depth of the penetration of the adhesive and the properties of the final coated sheet. There appeared to be a straight line relationship between the depth of penetration and the wax number of the coating. Increasing the depth of penetration in the adhesive tended to decrease the smoothness of the uncalendered coating. The smoothness of uncalendered coating was increased by increased beating of the stock used in making the base paper up to a certain point after which it is decreased. Smoothness was also in-

creased by increased sizing.

Bernard K. Asdell, Edgar Bros. Co., discussed the rheological properties of clay-water suspensions, and this was followed by "The Hercules High-Shear Viscometer" by J. Wilson Smith and Paul D. Applegate of Hercules Powder Co. They pointed out that high solids pigment suspensions are frequently applied industrially under conditions subjecting them to high rates of shear. Since these suspensions, in general, possess complex flow characteristics, predictions of their performance under such conditions from conventional viscosity measurements is difficult. The authors described the devising of a simple viscometer to assist in the accumulation of useful data.

"The Electronic Gloss Indicator as an Aid in the Control of Paper Finish" by Kenneth Bowers, Glen Falls Laboratory, was first described and illustrated in commercial application in a story on Newton Falls Paper Mills, Inc., in the March issue of **PULP & PAPER**. Mr. Bowers' paper described his electronic gloss indicator instrument of high sensitivity which consists of a photo-electric scanner, electronic amplifier, and an indicating meter suitably marked for gloss indication. The instrument is not affected by color of paper, voltage changes in the mill power, or other conditions in the average mill. Through a remote scanning unit it can be located on the calender stack with the amplifier out of the way. Indicating unit is usually placed near the pressure and moisture controls so that the operator can efficiently use the instrument in the calendering operations.

F. H. Frost, S. D. Warren Co., was associated with the very early development of the air knife method of coating, as well as with its later development. Consequently considerable interest attached to his paper on this subject. The Warren mill in Maine has designed and built a sheet air coater for laboratory experimentation which coats a sheet five by 17 inches and the type of coating is said to be almost exactly that obtained under commercial conditions. K. E. Terry, the company's chief engineer, was said to have obtained a patent in 1938 for obtaining a non-divergent air stream which would have the action similar to a knife edge.

"Coating Paper on the Paper Machine by Rotogravure" by Gerald Haywood,

West Virginia Pulp & Paper Co., described how coating may be applied from the color pan to a color roll which deposits the color on a knurled roll having a continuous pattern of cup-like indentations. A doctor removes the excess and the coating is transferred to the paper by the use of a rubber covered coating roll which is in contact with the knurled roll. Coating weight is determined by the number and volume of the engraved cups.

E. E. Thomas, Appleton Machine Co., followed the papers by leading a lively discussion on machinery and equipment for paper coatings.

The all-day "Water" session involved basic principles of corrosion control, study of slime control, economic considerations of feedwater control, process water for the manufacture of groundwood papers, sludge contact reactors, and related water topics.

### Wet Strength Discussion

The "Wet Strength" discussions were enlivened and illustrated by displays of converted products made from wet strength papers, as well as by samples of wet strength papers. K. M. Britt, Scott Paper Co., led the session.

Three men from American Cyanamid's research laboratory at Stamford, Conn.—J. K. Dixon, G. L. M. Christopher and D. J. Salley, discussed "Fundamental Physical Chemical Characteristics of Melamine Resin Acid Colloid" describing the highly technical relationships of physical-chemical data to the wet strength produced in paper. Two other American Cyanamid men, C. S. Maxwell and W. F. Reynolds, presented a paper on "Effect of Salts on the Melamine Resin Wet Strength Paper Process." They offered a set of ideal condition for mill application in avoiding the effect of anions in the stock. Presence of cations in the stock, they said, has no significant effect. Stock should be refined fully in the beaters before addition of resin to thick stock; add resin to stock which has a sulfate concentration of about 75 ppm; allow resin treated stock to stand 30 minutes or more before addition of alum (sulfates) or dilution with fresh or white water; do not jordan or otherwise refine the resin treated stock. Compromises were suggested for those mills which cannot fulfill all these conditions.

Robert Auten, Resinous Products and Chemical Co., discussed "The Chemistry of Urea and Melamine Resins", and R. J. Myers and L. E. Kelley of the same company "Wet Strength Development with Neutral Water-Soluble Polymers."

The place of statistics in actual production was studied in the afternoon session led by T. A. Pascoe, Nekoosa-Edwards Paper Co. Then O. E. S. Hedbring, United Board and Carton Corp., led a panel on cylinder machine papermaking composed of Alan Schumaker, Clifton Paperboard Co.; Carl Melenbacher, Ohio Boxboard Co.; Glen T. Renegar, Container Corp. of Amerca, and John F. Halladay, consultant, on the quality requirements of folding boxboard and how to meet them. Mr. Hedbring himself discussed routine testing procedures in cylinder board mills,



ED AUSTIN (left), Paper Sales Dept., Perkins-Goodwin Co., who was recently accorded a remarkable testimonial dinner by 300 fellow-citizens of Maplewood, N. J., for his quiet work in behalf of community improvements and enterprises.

CHARLES E. MUELLER (right), who holds master's degree in chem. eng., U. of Michigan, was recently appointed Asst. Mgr. of Pulp Dept., Elof Hansson, Inc., New York. He had previously been with KVP Co., Hercules Powder Co. and Bulkley-Dunton.



ENRIGHT A. ELLIS (left) who was recently elected President of Dowington Mfg. Co., Dowington, Pa., and OSCAR C. CORDES, who was elected Vice President in Charge of Sales and a Director. Mr. Ellis, graduate of the U. of Maine Pulp and Paper School, continues as Treasurer. He has been Vice Pres. since 1946. Mr. Cordes was formerly Asst. Sales Mgr. and is a Cooper Union graduate. Harry C. Merritt was elected Engineering Vice Pres., and Andrew E. Walker, Manufacturing Vice Pres.

### Johns-Manville Is Host

On February 27th, last day of "Paper Week," Johns-Manville was host to about sixty mill men and allied associates on a tour of their Transite pipe plant and the recently completed Product and Development Building of the Johns-Manville Research Center (see page 58, December, 1947, PULP & PAPER) at Manville, New Jersey.

Chartered motor coaches took the visitors from the Commodore Hotel to the Transite plant where the crowd was divided into small groups personally conducted by a Johns-Manville research man. The morning was spent at the Transite plant, and after a luncheon the mill men were conveyed to the big Research Center.

and Ives Gehring, Oswego Falls Corp., the features of an eight cylinder board machine.

### Final Technical Sessions

The final technical sessions on Thursday were wound up in the morning.

P. P. Gooding, Strathmore Paper Co., was chairman of the important session on "Preparation of Papermaking Materials," and R. W. Porter, chemical engineer, of

the equally important "Mill Instrument Control" discussions. "Plastics" rounded out the trio of Thursday meetings and was chairmanned by E. C. Jahn, State College of Forestry.

In "Papermaking Materials," L. E. Randecker, Hammermill Paper Co., described a new type beater wherein the tub is separately located from the roll and a pump is used to deliver a controlled quantity of stock. Object is to obviate the necessity of having the roll perform a circulating function in addition to stock treatment.

H. P. Espenmiller, Dilts Machine Works, showed a new approach to "Rag Mill Refining" for the manufacturer of rag and rag content papers such as bond, ledger and bank note. Preliminary field trials in different mills on a commercial basis have been concluded, using a Hydratiner to replace the finishing beater for the preparation of rag and rag-sulfite furnishes following pre-beating and washing. Power requirements were said to be reduced about 75% and batch refining time decreased about 60%. Formation showed marked improvement and the physical strength properties are said to be equal to papers manufactured from 100% beater prepared stock.

Included in the papermaking materials discussions were "The Mechanism of Water Resistance" by W. S. Wilson, Monsanto Chemical Co., and "Studies of Rosin Sizing" by Donna Price, Hercules Powder Co.

The instrument control session names read like a roster of instrumentation experts in the industry: John Chandler, The Bristol Co., on "Temperature Measurement and Control"; "Flow Measurement and Control" by W. S. Yunker, Foxboro Co.; "Control Valves and Positions" by John R. Robins, Mason-Neilan Regulator Co., and a paper by title "Continuous Measurement of Sheet Moisture" by Harold A. Scholl, Brown Instrument Co. The latter pointed out how speeds up to 2000 feet per minute can now be handled by the Paper Moist-o-Graph, an instrument providing continuous indication and record which remains stable under varying degrees of machine speed, mechanical draw, machine ventilation, furnish, caliper and sheet formation. Installations have been made in mills covering a very wide variety of papers and board.

### Publisher Takes Option

John L. Hobson, president of St. Croix Paper Co., Calais, Me., has announced that a group of newspaper publishers "with ample financial means" have taken a 90-day option on the 24,822 shares of the company. Mr. Hobson's announcement was made on February 17, and he stated that he was not at liberty to name the publishers at this time.

The purchase was made possible when holders of 97% of the stock deposited it with the Old Colony Trust Co. under an escrow agreement stipulating the buying terms.

St. Croix operates an 80,000 ton newsprint mill and owns about 600,000 acres of timberland in the U. S. and Canada.



# ENGINEER'S ROLE OUTLINED

## At Tacoma TAPPI Meeting

In the past two years, the engineers' division of TAPPI has grown more than any other and it has taken an increasing part in TAPPI activities. To the extent that this has been true on a national scale, it is also true on the Pacific Coast. The coast engineers took over the show in the last of the 1947-1948 season's afternoon-and-dinner meetings of Pacific Coast TAPPI. Just as they have done in the east, these engineers contrived to work up a program full of meaty material.

The meeting at Tacoma, Wash.'s waterfront resort, "Top-of-the-Ocean" on Mar. 9, started off with another entry in the annual Shibley award contest for young mill operations men. This time it was a paper on "Determination of Metals in Pulp by Use of the Dropping Mercury Electrode," presented by Dr. Charles Roland McCulley, 34-year old research chemist in the Pulp Division of Weyerhaeuser Timber Co., who just this year earned his doctorate at the University of Oregon in physical chemistry. He was born in Halsey, Ore., and took bachelor's degrees in architecture and organic chemistry at Oregon and Oregon State College, respectively.

He described the use of the electrolysis of solutions, using a pinhead of mercury on the end of a cathode as one electrode and the other, a pool of mercury of much larger area. The determination of metallic impurities by a rapid and accurate method has become more and more important as the pulp industry has found markets for more purified pulps. Advantages of the polarographic methods over wet ash or dry ash procedures, he said, are, (1) speed, (2) greater sensitivity, (3) more complete coverage without separate analysis, (4) adaption to a wide range of concentrations and (5) less chance of error due to human element.

After this talk, Dr. Joseph McCarthy, of the University of Washington, temporarily surrendered his seat as chairman to Justin McCarthy, the chief engineer of St. Regis Paper Co. in Tacoma, who acted as moderator for the engineers' round table and his long experience in that field made him an adroit and business-like chairman.

His session started off with a highly technical but illuminating discussion of the chemical engineering aspects of drying by Dr. Frank West of the University of Washington. Illustrations and charts had so great a part in this talk that it would be difficult to write much about it here, but Dr. West showed things that go on inside a dryer that few seasoned papermakers probably ever dreamed of. To the surprise of some, we are sure, was the discovery for them that in the drying process the water has all kinds of devious ways of moving through the stock and there is either "capillary suction" or "vapor dif-



HERE IS ENGINEERS' PANEL at round table of TAPPI at Tacoma, Wash., meeting on March 9 (left to right): Dr. Frank West, Univ. of Washington; M. K. Hecker, Barthel Chemical Construction Co., Tacoma, recently of Akron, O.; Justin McCarthy, Chief Engineer, Tacoma division of St. Regis, who was Moderator; Lee Hill, Plant Engineer, Everett mill, Weyerhaeuser Timber Co.; William Pittam, Engineer, Longview mill, Weyerhaeuser Timber Co., and Virgil Peters, Mechanical Superintendent, Longview Fibre Co.

fusion" going on at different times.

His paper undoubtedly was helpful in giving technical men an idea of the forces that create drying and an indication of what might be done to make a dryer act differently if so desired.

Three mill men—Lee Hill, plant engineer at Everett, and William Pittam, engineer at Longview, both with Weyerhaeuser, and Virgil Peters, mechanical superintendent, Longview Fibre Co.—then collaborated in describing three phases of engineering activities in mill. Mr. Peters led off with a discussion of maintenance in a kraft mill, and his talk was so full of interesting and useful information we are publishing it herewith almost in full. Said Mr. Peters:

### Virgil Peters' Talk

Most of our woodroom conveyors are typical sawmill type. Chain sprockets, and belt pulleys are boxed in with timbers, liners, have been drilled and fitted in the field, many of the existing bearings are obsolete patterns, that must be rebabbitted during a breakdown, or new ones refitted to suit the job. Much of this equipment operates 24 hours a day thus repair time must be at a minimum.

As our log haul timbers rot out they are replaced with steel piecemeal fashion. Manganese steel conveyor chain and sprocket teeth have been very satisfactory. A chip belt conveyor recently put in to replace a worn-out conveyor is a maintenance man's dream. It was entirely fabricated of steel, and assembled complete in the ship with the belt vulcanized in place. The conveyor was then taken apart and rapidly installed in place of the torn out conveyor.

All of the pulley bearings are anti-friction pillow blocks that adapt themselves to standard shafting. The troughing rolls are ball bearing 45 degree angle which was increased from our standard 35 degree. This increase in troughing angle allowed the removal of the stiff decks at the feed end of the conveyor thus eliminating much wear on the belt. Soft rubber curtains can be substituted that do not wear the belt should they touch it. The reduction gear is directly connected to the driven belt pulley through a flexible coupling which eliminated the customary roller chain and sprockets. This conveyor needs attention from the mill oiler

but once a month. The replaced unit required lubrication daily.

Our wood barker is a 12x44 drum type. We had a maintenance problem from wood falling into a previous drum on exposed U-bars. It was impossible to change the angle of inlet so the rotation of the drum was reversed thus allowing the wood to fall onto wood tumbling in the drum and breaking its fall. This eliminated much U-bar breakage. A new drum was ordered in 1944 of heavier material and assembled by us. We both welded and riveted the drums. Two rivets were used on a diagonal to secure a U-bar to a channel and the U-bar welded on each side to the channel. Stiffeners were welded under the U-bar between the channels to reinforce the U-bar under impact of the falling wood. Inspection about a year ago showed many missing rivets and cracked welds most of which were on the diagonal where rivets had not been placed. We put a crew in the barker for 6-hour periods and installed four rivets per joint and welded up the cracks. Thus far the drum is in perfect condition.

The chipper is a 110-inch four-knife integral synchronous motor drive. Trouble has been experienced with the disc cracking between pockets. The disc is cast steel. We now have a heavier cast steel disc in the machine with a change in pocket design to eliminate this trouble. No cracks have shown up in the two years this disc has been used. Trouble has been caused by the outer races of the arbor Timken bearings imbedding themselves in the bearing housings due to load and shock from the operation. This was first noticed by the unequal gap in the clearance between the stator and rotor in the motor. The manufacturer furnished us with flame hardened bearing housings that have partially cured this condition. We still measure the rotor clearance monthly.

The chip screen room is almost trouble free since the fast moving vibrating screens were replaced with slower moving reciprocating type. The distributing conveyor is a two strand rivetless chain type with maple flights. It was carried on angle iron rails which wore out and cut the chain attachments. They are now carried on end-grain fir blocks that have been oil soaked. This is common practice in many mills but it took us a long time to learn about it. The blocks are easy to replace and take on a high polish that shows no wear on itself or the chain. It also eliminated welding and burning which is hazardous in a chip bin or chip screen room.

The digester room looks very attractive with

new paint using a color scheme of light green, ceiling and walls with deeper green dado and trim. This color scheme has been standardized throughout the mill including the converting departments. Glass brick is replacing steel sash that has rusted out.

Does anyone have a paint that will stand up in a pulp mill? Paint manufacturers tell us we don't sandblast or wire brush the corrosion down to the base metal before painting. We find our corrosion has penetrated the metal so that even though the film resists outside action it is popped off by the corrosion which grows underneath it. Factory or laboratory prepared samples have stood up well in tests but the paint fails when used in the mill because of our poorly cleaned surfaces.

We have just installed two replacement digesters. These new tanks are Stainless-lined with a 7/64-inch sheet of alloy 347 which is secured to the shell with spot welds on about 1½-inch centers. These digesters were installed in two pieces and welded in place to avoid tearing into our building.

We find that fir and spruce are more corrosive than hemlock, and that increasing the sulfidity of the white liquor by adding sulfur at the causticizing tanks also increased the corrosion on the digesters.

Pump packing on digester liquor circulating pumps is a problem. We have a pump with a double stuffing box and water-cooled shaft that runs 8-10 months per packing. Three circulating pumps had the conventional stuffing box and lantern ring, and with these lies difficulty. They will operate about a month per packing if the unit has just been rebuilt but with much leakage of liquor and grooving of the shaft sleeve. The technical department planted a conductivity meter in the sewer which indicated that something had to be done about it. We tried different kinds of packing with little success. Asbestos fiber packing would mush up, and graphited cotton packing proved the best. We finally relieved the shaft under the sleeve and bored two holes in it about three inches apart. A lantern ring was placed over each hole making four rings of packing, a lantern ring, four rings of packing, a lantern ring, and four rings of packing. Cooling water was run under the sleeve under pressure higher than the pressure of liquor in the pump volute. This stunt increased packing life to about five months, and got the operating department off our necks as to this problem. The stuffing box cannot be packed with this arrangement in the 20 minutes between cooks so the pump must be blanked off and one cook run on direct steam. Does anyone use a rotary seal on a black liquor pump? (During question period, a few of his listeners suggested some trade name packings, comparatively expensive.)

We have trouble with liquor valves stems pulling out of the gate. To eliminate this a tee head type stem has been made standard.

About two years ago we overheated the lime kiln and buckled the cold end. We cut off about 30 feet of this end and welded on a new piece. The end was bricked up inside to prevent this reoccurring. The drive for the kiln was a mixture of spur gears, bevel gears and flat belt pulleys powered by a slip ring motor. Soon after the bricked end had been welded in, the kiln developed a jerky motion. To take some of the slack out of the open gearing we removed most of the jackshafts and installed a motor-driven reduction gear through a flexible coupling. This resulted in an even turning kiln. We are now a little concerned over a loose tire around the kiln, and have decided to drive tapered wedges in opposite sides of it to overlap each other and weld them in.

The flue gasses are pulled through a spray chamber and a fan and then discharged into a stack that has showers in it. The first induced draft fan was rubber covered and the rubber loosened and came off. The stainless steel fan installed later looks all right. The stack started to corrode out rapidly after it was installed and this was gunnited. Very little wear has been observed now over a period of several years.

Lime sludge pumps wear out rapidly. A cast iron pump lasts us three months. Stainless steel gives a little better service. A rubber-lined pump ran a month before scouring out. We have

a Ni Hard pump in service now that has given a year's duty, without trouble. Another is on order as a standby. About a year and a half ago we installed a rotary lime slacker that proved a big improvement over our vertical tank with turbo mixer agitator. The inner cylinder of the rotary slacker is made of alloy 502 which to our surprise is standing up well. It is, however, covered with lime which protects it from action with the caustic and scouring. This inner cylinder took on about a 6-inch layer of lime deposit and broke in loose on its brackets. We had to jackhammer the deposit out and re-inforce the brackets to the outer shell.

Our causticizing tanks are vertical with a center turbo mixer type agitator hung from above. The whirling action of the liquor, with stones and dregs, cut out the brick bottom under the agitator and allowed the tank to leak. This action will take the brick out in three months. We laid chilled white iron discs 30 inches diameter and 1½ inches thick under the agitators and were surprised to find one worn through in 14 months.

The rotary slacker is fed from a screw conveyor and the lime washed from the conveyor to the slacker with green liquor through an 8-inch pipe. Steel pipe wore through at the point the green liquor was added. We thought this problem was licked by using 8-inch stainless steel pipe 3/16 inches thick, but found this failed in about six months.

In the furnace room the black liquor pumps feeding the nozzles on the Tomlinsons used to be a packing problem. As in case of digester liquor circulating pumps, all kinds of packing were tried without success. We finally bought a set of balancing wheels and static balanced all pump assemblies going through the shop. This improved the packing life. We send out pump sleeves for chrome plating, and find an improvement on packing life of the pump to grind the sleeve mounted on the shaft before final assembly. The chrome plate must be about 25 thousandths of an inch thick to allow this. Our furnace pumps now give about five to six months per packing with very little leakage.

We have rolled all the tubes in a top drum of a 400-lb. Tomlinson unit, twice in past two years to stop steam leakage. Recently another tube sprung a leak at that location and we found it cracked about two-thirds around and about half-way inside the wall of the drum. This tube was capped at both ends. Six more tubes were found cracked this way but as they did not leak they were not disturbed. Occasionally an operator will poke his lance spear through a tube, and the welder will glue several rods together and with aid of a mirror repair the leak.

On paper machine wire and felt guides, do other mills have as much trouble as we do on spare parts? On many of our guides the manufacturer's serial number means little because the paper machine has specified the length and shape of the monkey motion parts to fit the size of roll, speed of felt. Lacking parts, we have made replacements on the job that, being a little bit different than the original, caused the rest of the guide to be readjusted to make it work. Some of the guides are part Moore and White, part Gilbert and Nash, part Beloit, and have Longview Fibre modification. We have purchased some air guides in the hope that something standard can be adopted. So far the ones in use have to use entirely different pans, and toggles, and none seem to work satisfactory. The heat of the dryers may spoil the cup leathers.

We have been experimenting with Nylon carrier rope. Our findings indicate that 5/16 Nylon will run twice as long as ¾ Kenyon rope and cost twice as much. Nylon of 5/16 was used instead of ¾ because its tensile strength compares with ¾ cotton and ¾ Nylon might pull out rope sheaves when fouled up. We have tried out a rolled type splice in Nylon. This splice seems successful for emergency splicing as it proves to be almost the equal of a long splice, and can be spliced in less than ten minutes.

#### Engineering in Operations

William Pittam, engineer at the Weyerhaeuser Longview mill and former

Shibley contestant, had a somewhat more general topic—engineering activities in plant operations. He told how the engineering department is organized at his mill, and the breakdown of functions.

There are three divisions—the stores department, maintenance department and engineering department proper, the latter consisting of two groups. One handles "engineering phases of maintenance and repair of existing equipment and design of new equipment," while the other "originates all construction designs in the mill which are not big enough to be handled outside the organization." Engineers are shifted back and forth between these two groups.

He mentioned as other operations duties of engineers the keeping of reports on material efficiency, corrosion tests and electric motor and bearing lists.

#### Engineering New Equipment

Mr. Hill, who was a wartime navy development engineering officer, also had a more general subject—the engineering of new equipment in an existing mill—and he took full advantage of subject opportunities offered him by presenting a paper colored with wit, good humor and a bit of philosophy thrown in for good measure.

He told of the close cooperation and exchange of views of all departments in his company in the planning of a new engineering project and he also mentioned the warm welcome which Pacific Coast engineers receive in visiting other neighboring mills to observe equipment and pick up new ideas.

In touching on Weyerhaeuser's future planning in Everett, he said that at present the annual wood harvest, even with pre-logging and salvage logging, "does not justify an addition to our cooking capacity." He amended this to point out that a good price for pulp would make it possible to supplement wood supply with slabs and refuse, farmer wood and remote wood—all of which used to be considered uneconomical. He discussed possibilities when the seventh digester at Everett, now an alternate while the other six are being relined, can join the full line-up. Longer cooks and higher quality pulp is a possibility, he said.

"The cooking cycle is quite likely to be changed to allow for recovery of waste liquor, which would be used for fuel and yield a return of chemicals," he said. "This becomes a factor in the design of the new digester which will give information of use when magnesia becomes the base of our cooking acid."

While deploring inefficient use of wood for steam, he said it was not "a sin" to burn wood for this purpose, wood being the only fuel that can renew itself "and promises to be as abundant in the future as at present." However, he conceded that some of the material in hogged fuel can be converted to a chemical pulp-board, as is being done at Longview and will be done in the new Weyerhaeuser board mill at Springfield, Ore.

As alternate fuels, he said oil was becoming "scarce and costly" and coal was "not highly regarded," and he praised the



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APRIL, 1948

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## "SEE THROUGH" SHIPPING BAGS

(NEWS ITEM: A new paper bag has been designed for pre-packing bulk fruit and fresh vegetables at the shipping point.)

From the sunny groves of Florida to the frozen shores of Maine, fresh fruit travels in a new type paper bag. Made of two or more layers of wet-strength kraft paper, this new bag features a "window" of cotton mesh. If desired, bags are made with a specially treated, creped kraft handle. This new paper container combines all the advantages of product protection—visibility, air circulation and brand identification. Manufacturer's name supplied on request.

Paper soap tissues . . . steam pressing paper . . . silver polishing paper . . . new uses for paper calling for new standards of lightness and toughness, new standards of quality in performance. New responsibilities—new opportunities for the Pulp and Paper Industry.

The Pusey Jones Organization is now devoting itself completely to the design and construction of Paper-Making Machinery built to new high standards of speed and efficiency, and to the modernization of existing machines. Additional capacity in Metals Fabrication is now available through conversion of facilities formerly devoted to the building of ships.

Pusey Jones Engineers will welcome the opportunity to work with you in solving production problems.

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foresight of Research Director Raymond Hatch for his part in developing the waste liquor fired boilers now being installed at Weyerhaeuser's Longview mill with co-operation of Babcock & Wicox, using a magnesia base for cooking. Mr. Hill described this as a long step toward pulp mill fuel "self-sufficiency."

He then told how his mill had evolved several plans for maintaining adequate cargo pulp at shipside and how one plan had to be abandoned because of a long-shoremen's union limit on number of bales permitted per load. The preferred plan, he said, finally was a covered storage on dock, filled as pulp is made and emptied and loaded on ships by short haul equipment.

He spoke for pleasing general appearance in engineering design and also for concessions to maintenance of production. He said Otto C. Schoenwerk, consulting

engineer for the Longview construction, had allowed for even a possible "temporary return from magnesium base to calcium base—a concession that probably would not have to be made in subsequent installations."

#### Rubber Linings

Final talk on this engineer's program was on "Corrosion and Abrasion Resistant Linings," by M. K. Hecker, formerly with Goodrich Rubber Co. in Akron, O., who only recently opened offices of the Barthel Chemical Construction Co. in Tacoma, Wash. He is licensed by Goodrich to use their processes and materials in the Pacific Northwest.

Recounting the history of rubber compounds, he told how a Goodrich chemist accidentally found one that adhered to metal in 1923 and a year later rubber linings were put on the market. One for abrasion,

he said, is little changed except that more lampblack is used. The anti-corrosion type, he said, was made from wild rubber and later discoloration was eliminated by compounding with domestic rubbers.

In 1927-1932 came the development of hard rubber linings; linings for phosphoric acid and other acids; triflex linings, which had characteristics of hard rubber but would stand sudden shock without cracking, and coroseal, to take nitric acid. Rubber compounds, he said, now have good life in temperatures up to 160 degrees, but less life up to 240 degrees.

Dinner and entertainment followed the technical meeting, arranged jointly by the St. Regis Paper Co., Hooker Electrochemical Co. and Penn Salt Mfg. Co. of Washington—all with Tacoma plants—according to announcement by Brian Shera of the latter company.

## DETERMINATION OF METALS IN PULP

### By Use of The Dropping Mercury Electrode—(Shibley Contest Paper)

By Dr. Charles Roland McCully

Research Chemist, Pulp Division, Weyerhaeuser Timber Co., Longview, Wash.

The use of wood pulp for dissolving purposes and other special uses has placed considerable emphasis on the metallic impurities in the pulp and has led to the development of several methods and techniques for the determination of these impurities. In certain instances amounts as low as 1 ppm. are deemed critical. To detect such small amounts it is necessary to either use large samples of pulp or have a very sensitive method for the determination of such impurities. As a result of this, colorimetric methods of analysis have been adopted in many cases. Although the better of these methods are sufficiently accurate they are nevertheless tedious and time consuming when it is necessary to determine several metallic impurities.

The answer to the analyst's prayer in these cases may well be the polarographic method of analysis first developed by Heyrovsky in about 1920. This method makes use of the electrolysis of solutions using the dropping mercury electrode as one electrode and the other electrode, which must be of much greater area, may be a pool of mercury. It gives the best result when used with solutions that range from the dilute to the extremely dilute,  $10^2$  to  $10^6$  molar, and is thus well suited for the determination of small amounts. This is particularly true since solution volumes of 1 ml. or less can be easily accommodated. Still a further advantage is that a number of materials can be determined almost simultaneously in a single solution thus eliminating the necessity of chemical separations. A single current-voltage curve may be used for several materials and with proper equipment this entire curve may be made in about 5 minutes. Interpretation of the current-voltage curve is simple, requires no expensive equipment and can be done rapidly, simultaneously identifying and determining the metallic ions present. This is demonstrated in Figure 1.

This typical current-voltage curve, or polarogram, was made of the metallic impurities in a pulp sample. It is seen that the cell current increases rapidly with increasing potential only at certain specific potentials. Each of these specific potentials corresponds to the reduction of one ionic species and the amount of current increase, or wave height, indicates the concentration of that metallic ion species. Thus one identifies the metallic ions producing a wave by the midpoint of the wave, called the half wave poten-



DR. CHARLES ROLAND MCCULLY, Research Dept., Pulp Div., Weyerhaeuser Timber Co., presenting his paper for the 1948 Shibley award contest on "The Determination of Metals in Pulp by Use of the Dropping Mercury Electrode." He made the presentation at the Tacoma, Wash., meeting of TAPPI on March 9.

tial, and determines the concentration by measuring the wave height, more commonly called the diffusion current. The metals of Figure 1 were determined in an ammoniacal ammonium chloride solution. It is seen that copper gives two waves under these conditions, while nickel and manganese, as expected, each give only one wave.

#### Method

The principal problem in adapting the dropping mercury electrode to the determination of metallic impurities in pulp is to obtain these metallic impurities in suitable solutions. This involves two steps, the first step being the separation of the metallic impurities from the pulp, and the second step being to dissolve these impurities in the desired solutions. Simplicity and rapidity while retaining the desired accuracy were considered as the controlling requirements of the method.

The usual methods of separating the metallic impurities from the pulp by dry ashing or wet

ashing methods, while feasible, were discarded. The dry ashing method, or burning away the pulp at controlled temperatures is time consuming. The wet ashing methods, or destroying the pulp by heating with strong acids, leaves the metallic impurities dissolved in concentrated high boiling acids and is somewhat undesirable due to the hazards involved.

Accordingly, a method has been evolved which is based on the ion exchange properties of cellulose<sup>1</sup>. This method is rapid and reliable. It consists in adding a measured amount of two normal hydrochloric acid to a weighed amount of A.D. pulp to give a pulp consistency of about 20%. The pulp is now muddled using a heavy stirring rod with a mushroomed end. Four minutes of actual muddling over a period of ten minutes has been found sufficient. Slightly more than half of the acid added is now pressed out by any suitable means and an exact aliquot, usually one-half, is measured. If it is so desired, the pressings may be filtered through a fritted glass filter before measuring. This aliquot, which need not measure more than 25 ml. is evaporated nearly to dryness and a few drops of nitric acid and perchloric acid are added and the heating continued nearly to dryness. This residue is considered to contain one-half of the metallic impurities from the pulp sample originally weighed.

The next step involves taking up the residue in solutions suitable for polarographic analysis. A small amount of water, say 15-10 ml., is accurately measured and added to dissolve the cooled residue. A small aliquot is now taken and diluted with tetramethyl ammonium hydroxide for the determination of calcium. The remaining residue solution may be divided into halves. One half is used for the determination of iron and then for the determination of aluminum. The other half is diluted to twice its volume with an ammoniacal solution of ammonium chloride. This solution may be used for the determination of copper, cadmium,

<sup>1</sup>Cationic Exchange Reaction of Cellulose and Their Effect on Insulation Resistance—A. F. Church, J. Soc. Chem. Ind. (London), 66, 221-6 (1947) C. A. 42, No. 2, 755. (1948)

Acidic Properties of Cotton Cellulose and Derived Oxycellulose. III. Ion-Exchange Reaction with Various Cations—G. F. Davidson and T. P. Newell (Shirley Inst., Didbury). Shirley Inst. Mem. 21 41-6 (1947) C. A. 42, No. 3, 1052. (1948)

nickel, zinc, and manganese. These lists of metals are given as examples and by no means represent comprehensive lists of metals that may be so determined. (See Kolthoff and Lingane, *Polarography*, Interscience Publishers, Inc., for more extensive data.)

### Equipment

There is a rather wide range of equipment produced commercially utilizing the dropping mercury electrode. A number of these are automatic recording, that is they plot the current-voltage curves automatically. This type of equipment is very convenient to use and in addition to being rapid gives a permanent record. The electrical circuits for such an instrument may be rather complex, however in the simplest form all that is required is a means of supplying a known potential to the cell and a galvanometer to measure the cell current. Two No. 6 dry cells are capable of supplying sufficient potential. A simple circuit diagram is shown in Figure 2.

The electrolytic cells used are also supplied commercially or may be made easily. A simple Heyrovsky-type cell and dropping mercury electrode assembly are shown in Figure 3. This cell contains a mercury pool to serve as the anode and the dropping mercury electrode

serves as the cathode. A means is provided for bubbling nitrogen through the cell solution to eliminate dissolved oxygen since oxygen gives interfering waves. A means is also provided for preventing the re-entry of oxygen to the solution. The dropping mercury electrode itself consists of a very fine capillary through which mercury flows and then drops into the solution. Rate of flow of the mercury is adjusted to one drop every 2/5 seconds by raising or lowering the mercury reservoir.

Initial investments in polarographic equipment which may seem not to be warranted by those who make only intermittent analyses for metals may be even so justified by the general usefulness of the equipment. This equipment has a wide range of application not only to determination of metals but to the determination of certain dissolved gases and for the determination of many organic compounds. It is well suited to following rate of reactions, conditions for oxidation or reduction, and even to following the extent of certain polymerizations.

### Experimental Data

The procedures herein outlined have been carefully checked with many pulp samples. Since the method for separating the metallic impurities from pulp represents the chief de-

parture from standard procedures, data are given in Table 1 comparing this method with typical wet ashing and dry ashing methods. It is readily seen that the most consistent results were obtained by the ion exchange method.

### DETERMINATION OF CALCIUM AND COPPER IN A PULP SAMPLE

*A Comparison of the Exchange, Wet Ash and Dry Ash Procedures*

Procedure	Calcium PPM.	Copper PPM.
Exchange .....	280	10.5
Exchange .....	280	10.4
Exchange .....	285	10.2
Wet Ash .....	260	
Wet Ash .....	280	
Dry Ash .....	180	
Dry Ash .....	170	
Dry Ash .....	170	10.6
Dry Ash .....	170	10.3

### Conclusion

It is concluded that polarographic methods of analysis when accompanied by suitable means of separating the metallic impurities from the pulp offers a rapid and reliable method of determining these impurities.

Its chief advantages over existing methods are as follows:

1. Much more rapid.
2. Assures a more complete coverage of possible impurities without the necessity of separate analyses for each impurity.
3. Can be adapted to cover a wide range of concentrations.
4. Can be made more sensitive than existing methods.
5. Is less tedious and therefore affords less chance of errors due to the human element.

### Capacity Increased At Newberg, Ore., Mill

Production capacity of Spaulding Pulp & Paper Co., Newberg, Ore., is being raised from its present 82 tons of pulp per day to 125 tons per day.

An additional 15 ft. x 49 ft. digester has been installed, making a total of four digesters. Electric Steel Foundry supplied all valves, piping and fittings of stainless steel. This Stebbins-lined unit went into production the first part of January. Four additional rebuilt Valley Iron Works screens recently added to the screen room, went into production about the same time.

A 30-ft. diameter spherical acid accumulator is being installed as a primary piece of equipment for the Chemipulp Process, which will replace the cold-acid process, according to J. B. Wilt, resident manager. Esco also supplied stainless fittings, valves and piping for the accumulator.

With completion of the present installation project, additional drying equipment will be added to accommodate the increased pulping capacity. Mr. Wilt says this may either be through putting in new drying equipment or adding to the present drying facilities to dry 125 tons per day.

Until the enlarged drying facilities are in production, the increase will be dried in the plant's shredded pulp dryer. In other words, the increase will be in shredded pulp until provision is made to handle it in sheet form.

Subsequently a hydraulic log barker is to be incorporated into the plant operation, improvements in the wood room are to follow, and additional chip storage is to be provided.

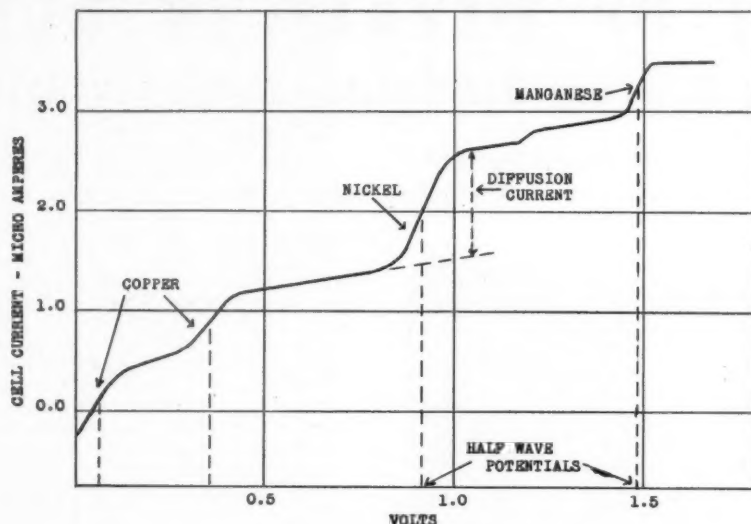


FIGURE 1. CURRENT-VOLTAGE CURVE

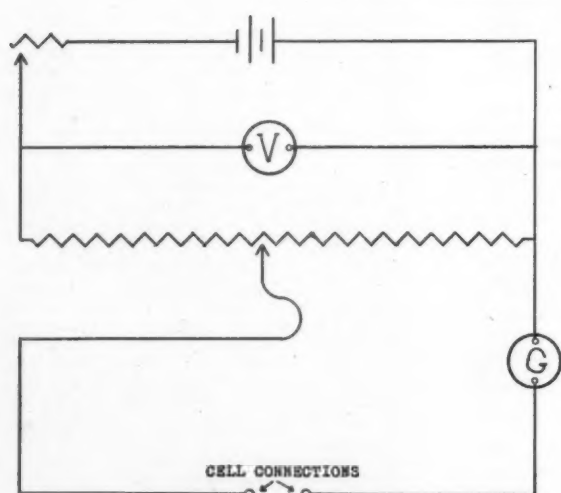


FIGURE 2. SIMPLE CIRCUIT FOR USE WITH DROPPING MERCURY ELECTRODE

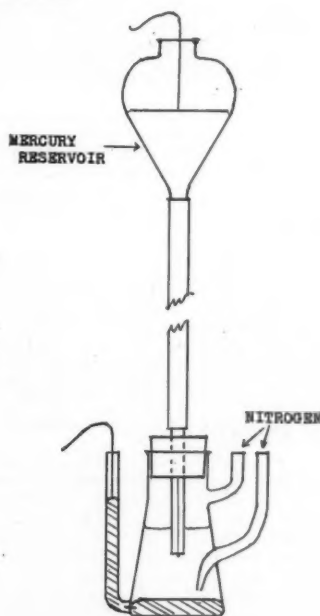


FIGURE 3. A SIMPLE ARRANGEMENT OF ELECTROLYSIS CELL AND DROPPING MERCURY ELECTRODE



# HAWLEY MILL SOLD

## Will Increase Newsprint

An agreement regarding the purchase of Hawley Pulp & Paper Co. stock from John H. Smith and others, sellers, and Publishers Paper Co. and Blyth & Co., Inc. (investment brokers), purchasers, was signed March 16.

Reports indicate that when the sale is consummated the production of the Hawley Pulp & Paper Co., located at Oregon City, Ore., will be changed over mainly to newsprint. It now has capacity for 250 tons daily, of which 150 tons are listed as newsprint capacity. Officials plan to accomplish this change to a considerable extent by late summer, with the complete program becoming effective prior to the end of 1948.

This transaction is a serious blow to the hopes of Alaskans and the Forest Service to launch a newsprint industry in the Petersburg-Neah Bay area of Alaska. Some of the participants in this purchase were considering the Alaskan deal, too, but had held off because of Indian claims and Department of Interior interference.

John H. Smith, president of Hawley, reported to **PULP & PAPER**:

"The agreement signed today is the result of protracted negotiations, and I feel it is a mutually advantageous deal. The purchasers will obtain much needed newsprint, and the sellers will receive a fair price for their stock, with any profit accruing being a capital gain. A deposit of \$500,000 has been made which is forfeitable under certain conditions, in which case the forfeiture money would be disbursed pro rata to the depositing stockholders.

Principal officers of the new company, Publishers Paper Co., are: Norman Chandler (publisher of the Los Angeles Times), president; H. W. Bowers, treasurer, both of Los Angeles; F. W. Leadbetter of Santa Barbara, Calif. (president of Oregon Pulp & Paper Co.), chairman of the board; A. E. Bowen (president of the Desert News), of Salt Lake City, vice president, and H. M. Youel, Portland, Ore., secretary.

## Ground Broken For New Springfield, Ore., Mill

Ground was broken for the new Springfield, Ore., pulp and board mill of the Pulp Division of Weyerhaeuser Timber Co., on March 16.

This mill, 4 miles south of Springfield, will be supported entirely by mill ends and mill trim and other former waste of sawmills and plywood mills of that region of Oregon and will make 150 tons daily of unbleached kraft pulp and 150 tons daily of containerboard, which will be sold entirely to Pacific Coast box converters. A 160-inch Rice Barton board machine has been ordered.

## Appointed to Build New Kraft Pulp Mill

W. Blake Ballantine, vice president of H. R. MacMillan Export Co., of Vancouver, B. C., parent firm of one of the biggest timber industries on the Pacific Coast, has been assigned the job of organizing and building that company's new 200 to 225 ton market kraft pulp mill on Vancouver Island, which will use chips and mill ends and trim from several MacMillan sawmills.

This project was previously announced in these pages. Jack Prescott, who formerly headed safety departments for the MacMillan company, will assist Mr. Ballantine.

## New Pulp Operation To Be Named Craycroft

A wholly owned subsidiary of H. R. MacMillan Export Co. to be known as Craycroft Forest Products, Ltd., has been formed to build and operate the company's \$12,000,000 sulfate pulp mill to be located on Vancouver Island.

Vice president E. B. Ballentine who has charge of plans for the mill says engineers are investigating several sites in the Nanaimo district on Vancouver Island.

C. R. WHITEHEAD, vice president of Consolidated Paper Corp., Montreal, and one of the veterans of the industry in Eastern Canada, was the guest of honor at a banquet given in his honor at Three Rivers, Que., recently, on his 80th birthday.

## Store Front Replica Sheet of Paper

Possibly for the first time, a sheet of paper has been done in replica for a store front. The newest store of Barton's Bonbonniere, candy chain, on New York's 42nd Street, reproduces as its front the firm's characteristic packaging paper. It is done in yellow venetian enamel terrazzo with aluminum stripes, to duplicate in appearance Bonbonniere's maize and silver-striped wrapping papers.

## Camas Machine Re-Built

Rebuilding of No. 10 machine at the Camas, Wash., plant of Crown Zellerbach Corp. has been finished. This Yankee machine was shut down for two weeks for the project which included putting in ten Beloit Iron Works pre-dryers. Purpose of rebuilding the machine was to increase production 30 per cent.

# Florida Mill Starts Up

## New Mill Starts Up

The new Alabama Pulp & Paper Co., affiliate of St. Regis Paper Co., built across the road from the Florida Pulp & Paper Co. at Cantonment, Fla., started up during the second week of March.

**ST. REGIS PAPER COMPANY'S** bag plant will be transferred from 4700 Howard Avenue, New Orleans, to the paper mill site at Cantonment, Fla., toward the end of the current year.

## Work Progresses For New Pulp Mill

Excavation of the site of the \$15 million Columbia Cellulose Co. (Celanese Corp. of America) pulp mill at Watson Island near Prince Rupert, B. C., will be completed by April 15, according to estimates of B. C. Bridge and Dredging Co.

## Mill Rebuilt

The St. George Pulp & Paper Co.'s mill at St. George, N. B., which was destroyed by fire in 1946, has been rebuilt and is again in operation with a capacity production of 60 to 75 tons of groundwood pulp, according to announcement by A. J. Lacroix, vice president and general manager. The mill is completely electrified. All production is shipped to the United States.

**SORG PULP CO.**, operating a kraft mill at Port Mellon, B. C., has purchased the hotel, wharf and other property at Seaside Park, adjacent to the lands on which the mill is located.

## New Paper Mill Announced for Georgia

Final plans have been completed, including contracts for building construction and machinery, for the construction of a 60 to 65 ton per day paper mill at Austell, Ga., according to announcement by Ross Puette, president of Carolina

Paper Board Corp., Charlotte, N. C. The new mill will be operated as the Austell Box Board Corp. Its equipment will include a six cylinder machine. Folding and set up box board will be produced.



L. A. THOMPSON (left), long time Manager for Hercules Powder Co., with headquarters in New Orleans, has been transferred to new headquarters at 415 Rhodes-Haverty Bldg., 134 Peachtree St. Northwest, Atlanta, Georgia.



RODOLPHE PARADIS (right), who has been appointed Resident Manager of the kraft mill of Sorg Pulp Co., at Port Mellon, B. C. He is a native of Vancouver, B. C., and for ten years was in technical work at Pacific Mills at Ocean Falls, B. C.

RESULTS OF 25 YEARS  
OF PULPMaking RESEARCH

In response to many requests from delegates to the recent Pacific Coast Superintendents' Convention, who heard his talk on this subject, Dr. Richter consented to write this article especially for PULP & PAPER. He also prepared these tables for publication.

At the meeting he talked without notes—as the tables were shown by projector from slides.

His talk was acclaimed as the outstanding event of the technical meetings. It graphically presented to his audience what were—in a manner of speaking—the results of a quarter of a century of work on Dr. Richter's part in the production of raw stock for refined cellulose. Before joining Eastman, he was technical director of Brown Company for many years.

Sponsors of the meeting described the talk as a "finger-tip" resume of the conditions of cooking which benefit or harm the bleachability of pulps.

Mr. Richter foresaw a future demand for improved quality of both fine paper and rayon and plastics pulps. His discussion of possible future trends in multiple cooks was published in PULP & PAPER in January and he predicted that investment in unorthodox pulp manufacturing processes in order to achieve higher qualities would take place "when the pulp market is not too bad and not too good."

By George A. Richter

Director of Cellulose Research and Development, Eastman Kodak Co., Rochester, N. Y. (This paper is based on a talk given at Pacific Coast Superintendents' Convention in Seattle, Dec. 6, and was written especially for PULP & PAPER.)



Reaction of aqueous solutions of sulfur dioxide with wood lignin at elevated temperatures is explained by processes of sulfonation and hydrolysis. Experimental evidence supports the view that sulfonation is favored and hydrolysis repressed as the concentration of sulfur dioxide is increased. Recent data such as contained in tables given below show that at a given elevated temperature of treatment the low sulfur dioxide solutions are

more injurious to subsequent delignification by bisulfites and with alkali. Although no proof is attempted, it seems reasonable to assume that the lesser reactivity can be attributed to the elimination of active groups in the lignin complex by resinification or by formation of polymer groups.

The critical temperature at which loss of reactivity becomes appreciable depends upon the choice of hydrolytic agent, the time of treatment and the liquor concentration. Under some conditions very severe sacrifice in reactivity is experienced.

Tables I and II show how delignification is influenced by a single stage treatment of hemlock wood chips with sulfur dioxide solutions of increasing concentrations and for two time periods studied. Greater removal of lignin by the higher concentrations is clearly seen and is consistent with the findings of other investigators. Table III is of interest in that it shows only slight benefit to be gained by use of thin shavings and also demonstrates that the higher developed pressure in the case of

Table I

KDS Cooks - Free SO<sub>2</sub> Only  
Products Not Screened

Wood chips - Western Hemlock Ratio of liquor to wood - 6:1 based on bone dry wood content

KDS	747	749	751	753	755	757	759	688R2	735R2	689R
Free SO <sub>2</sub> , %	5	5	7.5	7.5	10	10	15	15	25	25
Temp., °C	100	110	100	110	100	110	100	110	100	110
Pressure, pds.	53	66	64	85	88	106	134	160	200	200
Time, hrs.	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5
Relief Temp., °C	None	None	None	None	None	None	None	None	None	None
Liquor Color	10	17	12	20	15	21	18	23	21	25
Yield, %	73.9	69.1	--	66.3	--	59.3	60.6	51.3	54.1	46.1
Pentosans, %	3.8	3.6	2.9	2.7	3.3	2.4	3.0	2.5	3.20	2.4
Lignin, %	31.6	32.7	31.6	27.8	29.8	24.1	21.2	11.0	12.9	6.3

Time expressed as hours to maximum temperature plus time held there.  
Relief temperature, °C is temperature at which relief is started to avoid exceeding maximum pressure specified.  
Liquor color - an arbitrary scale - the higher the number the darker the color.  
Yield is overall. When screenings are given they are based on dry weight of screened pulp.

Table II

KDS Cooks - Free SO<sub>2</sub> Only  
Products Not Screened

KDS	748	750	752	754	756	758	760R	761R	762R	763R
Free SO <sub>2</sub> , %	5	5	7.5	7.5	10	10	15	15	25	25
Temp., °C	100	110	100	110	100	110	100	110	100	110
Pressure, pds.	57	66	72	90	85	101	139	165	200	200
Time, hrs.	1+10	1+10	1+10	1+10	1+10	1+10	1+10	1+10	1+10	1+10
Relief Temp., °C	None	None	None	None	None	None	None	None	None	None
Liquor Color	13	19	16	22	18	22	19	23	21	26
Yield, %	73.0	69.0	68.6	65.8	65.6	58.1	56.0	48.1	51.3	44.8
Pentosans, %	3.8	3.3	2.9	2.6	3.3	2.2	3.0	2.2	3.15	2.3
Lignin, %	31.6	32.3	27.5	26.5	26.5	23.2	15.0	8.0	8.6	3.2

Table III

KDS Cooks - Free SO<sub>2</sub> Only  
Products Not Screened

KDS	735R2	768	764	765	766
Free SO <sub>2</sub> , %	25	25	5	5	5
Temp., °C	100	100	110	110	110
Pressure, pds.	200	200	71	150*	200*
Time, hrs.	1+7.5	1+7.5	2+10	2+10	2+10
Relief Temp., °C	93	95	None	None	None
Liquor Color	21	21	21	21	21
Yield, %	54.1	53	66.5	66.9	66.2
Pentosans, %	3.2	3.2	2.4	2.4	2.4
Lignin, %	12.9	10.7	28.6	27.9	28.4

\* Nitrogen Pressure used to reach total pressure shown.

Table IV

Influence of Pretreatment with Free SO<sub>2</sub>

on a Subsequent

Normal S-1 Pulping

KDS	164	227	180	181	182	183	191
Stage I							
Free SO <sub>2</sub> , %	5	5	5	5	5	5	5
Maximum Pressure, pds.	41	50	60	72	83	90	90
Temperature, °C	80	90	100	110	120	120	120
Time, hrs.	1+4	1+4	1+4	1+4	1+4	1+4	1+8
Liquor Color	6	7	8	10	18	18	8
Washed in Water							
Stage II							
Free SO <sub>2</sub> , %	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Comb. SO <sub>2</sub> , %	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Comb. SO <sub>2</sub> , % based on wood	6	6	6	6	6	6	6
Maximum Pressure, pds.	85	85	85	85	85	85	85
Temperature, °C	140	140	140	140	140	140	140
Time, hrs.	4+4	4+4	4+4	4+4	4+4	4+4	4+4
Liquor Color	19	19	20	20	15	9	21
Relief Temperature, °C	110	110	108	110	112	110	107
Yield, %	44.0	46	46.8	46.0	26	62	48
Screenings, %	.15	.2	.18	.5	150	Hot Screened	.18
Pentosans, %	2.90	2.80	2.8	2.5	2.2	1.6	2.7
K Number	8.0	8	14	20	35	21	24
Lignin, %	1.0	1.30	3.0	5.5	16	30	6.5

Table V

Influence of Pretreatment with Free SO<sub>2</sub>

on a Subsequent

Normal S-1 Pulping

KDS	255	194	286	440	413	441	434	415	416
Stage I									
Free SO <sub>2</sub> , %	15	15	15	15	25	25	H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Maximum Pressure, pds.	117	130	100	150	200	200	10	27	60
Temperature, °C	80	90	100	110	100	110	100	130	150
Time, hrs.	1+4	1+4	1+4	1+4	1+4	1+4	1+4	1+4	1+4
Liquor Color	8	10	10	19	18	22	9	9	12
Relief Temperature, °C	None	None	85	108	87	95	None	None	None
Stage II									
Free SO <sub>2</sub> , %	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Comb. SO <sub>2</sub> , %	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Comb. SO <sub>2</sub> , % based on wood	6	6	6	6	6	6	6	6	6
Maximum Pressure, pds.	85	85	85	85	85	85	85	85	85
Temperature, °C	140	140	140	140	140	140	140	140	140
Time, hrs.	4+4	4+4	4+4	4+4	4+4	4+4	4+4	4+4	4+4
Liquor Color	18	18	16	12	8	21	22	22	22
Relief Temp., °C	107	106	106	110	112	112	106	106	106
Yield, %	44	47	47	44.5	47	42.4	44	47	39
Screenings, %	.16	.15	.4	4.3	.35	.61	.07	.07	.24
Pentosans, %	--	2.9	2.7	2.25	2.50	2.2	2.8	3.0	2.9
K Number	7.6	13	19	29	15	17.5	5	8	27
Lignin, %	.75	2.5	4.0	8.8	3.6	5.5	.5	1.4	7.4



# Alone

## THE WAY ROAD



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Manufactured in Canada by The John Bertram & Sons Co., Ltd., Dundas, Ontario

APRIL, 1948

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the richer solutions does not explain the improvement noted.

Tables IV and V illustrate the detrimental influence of digesting wood with relatively weak sulfur dioxide solutions at elevated temperature before actual pulping is carried out with orthodox bisulfite liquors. The figures show that in the case of 5% solutions the influence is felt at temperatures of 110° C. and above. In a single case, namely cook 193, the

longer digestion period with the weak solution demonstrates that even at 90° C. changes in lignin properties are reflected in the end results. The above tables also show that when the sulfur dioxide solutions are applied at concentrations of 15 and 25% much less injury is caused. Comparison of cooks 182 and 441 show a vast difference in degree of pulping accomplished in the second stage of the sequence.

Data from cooks 414, 415 and 416 illustrate that similar damage is experienced when wood is digested with water, but higher temperatures are needed to cause this injury. It is probable that partial sulfonation with the 5% sulfur dioxide solutions accounts for this difference in critical temperature levels.

All of the above helps to explain poor results obtained when bisulfite cooks are steamed to maximum temperature too

TABLE VI

RDA Series

Influence of SO<sub>2</sub> Concentration on Subsequent Alkaline Pulping

Hemlock laboratory chips used

Cook	388	389	390	391	392	393	394	395
Stage I								
Free SO <sub>2</sub> , %	5	10	15	25	10	15	25	25
Temp., °C	110	110	110	110	110	110	110	110
Pressure, pds.	68	100	100	100	115	150	150	200
Time, hrs.	1+5	1+5	1+5	1+5	1+5	1+5	1+5	1+5
Relief Temp., °C	None	102	78	88	None	105	78	96
Liquor Color	13	20	21	22	19	21	22	23
Washed								
Stage II								
Na <sub>2</sub> O/cu.ft.	3.5							
Na <sub>2</sub> O based on wood	.15							
Sulfidity, %	30							
Temp., °C	160							
Time, hrs.	1.5+2.5							
Overall yield, %	14	35	33.5	32	34.6	33.1	33.4	32.2
Screenings, %	182	.04	.08	.04	.03	.03	.03	.03
Alpha cellulose, %	96.3	97.4	97.5	97.4	97.4	98.7	97.1	97.0
Pentosans, %	1.13	1.24	1.12	1.13	1.26	1.21	1.15	1.15
K number	32	13	13	11.5	15	6.7	6.7	3.1
Lignin, %	11.6	3.8	3.2	3.1	3.8	1.65	1.70	1.12

Alkali usage is expressed as pounds Na<sub>2</sub>O based on original bone dry weight of wood.

TABLE VIII

RDA Series

Influence of SO<sub>2</sub> Concentration

As Table VI except with .2 Na<sub>2</sub>O in second stage.

Hemlock laboratory chips used

Cook	1178	404	405	406	407	1188	1338	408
Stage I								
Free SO <sub>2</sub> , %	5	10	15	25	10	15	25	25
Temp., °C	110	110	110	110	110	110	110	110
Pressure, pds.	70	100	100	100	118	150	150	200
Time, hrs.	1+5	1+5	1+5	1+5	1+5	1+5	1+5	1+5
Relief Temp., °C	None	104	79	61	None	105	73	91
Liquor Color	15	19	21	22	None	105	73	91
Washed								
Stage II								
Na <sub>2</sub> O/cu.ft.	3.5							
Na <sub>2</sub> O based on wood	.2							
Sulfidity, %	30							
Temp., °C	160							
Time, hrs.	1.5+2.5							
Overall yield, %	25	33	33.2	33.8	33.6	33.4	33.0	32.3
Screenings, %	50	.4	.03	.02	.2	.03	.02	.01
Alpha cellulose, %	97.1	97.2	97.0	97.3	96.5	97.5	97.4	97.7
Pentosans, %	1.18	1.00	1.00	1.04	1.08	1.06	1.10	1.00
K number	27	12	11	10	12	6	6	4
Lignin, %	8.65	3.0	3.0	2.9	3.4	1.73	1.60	1.0

Table I

RDA Series

Influence of free SO<sub>2</sub> level  
Drain only between stages.

Hemlock laboratory chips used

Cook	111	112	113	114	115
Stage I					
Free SO <sub>2</sub> , %	2.5	5.1	10.1	15	25
Temperature, °C	110	110	110	110	110
Pressure, pds.	46	70	113	150	150
Time, hrs.	1+5	1+5	1+5	1+5	1+5
Relief Temperature, °C	None	None	None	None	74
Liquor Color	7.5	20	20.5	22	24
Stage II					
Na <sub>2</sub> O/cu. ft.	3.5	3.5	3.5	3.5	3.5
Na <sub>2</sub> O based on wood	.2	.2	.2	.2	.2
Sulfidity, %	30	30	30	30	30
Temperature, °C	160	160	160	160	160
Time, hrs.	1.5+2.5	1.5+2.5	1.5+2.5	1.5+2.5	1.5+2.5
Overall yield, %	3	31	33.4	32.9	29
Screenings, %	1000	17	.33	.24	.4
Alpha cellulose, %	--	--	--	--	--
Pentosans, %	--	1.27	1.19	1.24	1.05
K Number	34	27	11	5.9	7
Lignin, %	--	8.0	2.9	1.36	1.80

TABLE VII

RDA Series

Influence of SO<sub>2</sub> Concentration

As in Table VI except with longer first stage time.

Hemlock laboratory chips used

Cook	396	397	398	399	400	401	402	403
Stage I								
Free SO <sub>2</sub> , %	5	10	15	25	10	15	25	25
Temp., °C	110	110	110	110	110	110	110	110
Pressure, pds.	72	100	100	100	112	150	150	200
Time, hrs.	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5	1+7.5
Relief Temp., °C	None	108	82	60	None	107	78	93
Liquor Color	17	22	22	23	21	22	23	24
Washed								
Stage II								
Na <sub>2</sub> O/cu.ft.	3.5							
Na <sub>2</sub> O based on wood	.15							
Sulfidity, %	30							
Temp., °C	160							
Time, hrs.	1.5+2.5							
Overall yield, %	28	33.2	32.6	31	32.3	31.4	32	32.2
Screenings, %	25	.12	.02	.02	.02	.02	.02	.02
Alpha cellulose, %	96.6	97.5	97.5	97.5	96.6	97.5	97.8	97.8
Pentosans, %	1.22	1.10	.95	.91	.93	.99	1.08	1.08
K number	27	11	7.1	7.1	10.5	6.5	7.0	2.0
Lignin, %	7.7	2.6	2.2	1.6	3.5	1.2	1.4	1.3

TABLE IX

RDA Series

Influence of SO<sub>2</sub> Concentration

As in Table VIII except with no wash between steps.

Hemlock laboratory chips used

Cook	409	410	411	412	413	1388	414	3048
Stage I								
Free SO <sub>2</sub> , %	5	10	15	25	10	15	25	25
Temp., °C	110	110	110	110	110	110	110	110
Pressure, pds.	76	100	100	100	110	150	150	200
Time, hrs.	1+5	1+5	1+5	1+5	1+5	1+5	1+5	1+5
Relief Temp., °C	None	104	80	60	None	104	73	89
Liquor Color	16	19	20	21	None	104	73	89
Stage II								
Na <sub>2</sub> O/cu.ft.	3.5							
Na <sub>2</sub> O based on wood	.2							
Sulfidity, %	30							
Temp., °C	160							
Time, hrs.	1.5+2.5							
Overall yield, %	16	35	33.8	34.2	34.0	34.0	32.6	31.5
Screenings, %	180	.4	.2	.2	1	.1	.05	.02
Alpha cellulose, %	95.2	97.1	97.4	97.0	97.7	97.2	97.8	97.7
Pentosans, %	1.09	1.2	1.2	1.2	1.3	1.3	1.3	1.3
K number	26	14	11	12	10	7	6	4
Lignin, %	10.0	4.3	4.0	2.9	2.80	1.9	1.3	1.4

Drain of excess liquor but no wash

Table X

Influence of Temperature

of SO<sub>2</sub> Stage on

Final Result in RDA Sequence

RDA	382	381	272	401	52811
Stage I					
Free SO <sub>2</sub> , %	15	15	15	15	15
Temperature, °C	80	90	100	110	120
Time, hrs.	1+7	1+7	1+7	1+7	1+7
Maximum Pressure, pds.	8	118	138	150	150
Liquor Color	8	9	17	22	25
Relief Temperature, °C	None	None	None	None	105
Stage II					
Na <sub>2</sub> O/cu. ft.	3.5				
Na <sub>2</sub> O based on wood	.15				
Sulfidity, %	30				
Temperature, °C	160				
Time, hrs.	1.5+2.5				
Yield, %	37.6	36.4	34.7	32	28.0
Screenings, %	5.5	.3	.1	--	.2
Pentosans, %	2.3	1.9	1.6	1.0	.9
K Number	20	13	8.0	6.0	11
Lignin, %	4	2.8	2.4	1.4	3.0



6 il-  
peri-  
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oxide  
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poor  
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too



400

25  
110  
200  
147.8  
93  
24

32.2  
.02  
97.6  
1.06  
2.0  
1.2



quickly. Unless sufficient time is allowed for the combined sulfur dioxide to penetrate the wood structure, the more rapid entry of free sulfur dioxide causes an initial chemical change in lignin which in turn results in partial loss of reactivity with consequential interference in normal pulping.

Tables VI and VII and VIII reveal the beneficial influence of rich sulfur dioxide solutions when applied as a first stage in an acid-alkali sequence for pulping wood. Here again the extent to which lignin is removed in the two stage treatment is dependent upon the concentration of the sulfur dioxide used in the first stage. Concentrations of 10-25% are particularly advantageous and the more so when high pressure and hence greater concentrations are maintained during the treatment. An outstanding example of excellent results is shown by cooks 393 and 394. Yields of over 33% were obtained and a high degree

of purification achieved. Such pulps bleach to excellent color with 3% total equivalent chlorine and by adoption of a simple two-stage bleach sequence.

Table IX shows a set of cooks that parallel those included in Table VIII except that the acid treated chips were drained but not washed free of residual acid liquor before the alkali solution was added. The results closely resemble those given in Table VIII and demonstrate that the sulfur-acid groups do not interfere appreciably with ultimate pulping by the kraft type liquor.

Table X summarizes another series of two-stage cooks in which increasing concentrations of sulfur dioxide were employed. As in the earlier cooks cited, the results become satisfactory only in those cases where not less than 10% sulfur dioxide was used. No gas relief was practiced except in cooks 114 and 115. Other cases not included in the tables show that even greater delignification occurs when

the operating pressure with rich sulfur dioxide solutions is maintained at pressures of from 200 to 250 pounds per square inch. All of the above adds support to the conception that high concentrations of sulfur dioxide favor sulfonation and hence ultimate delignification.

Table XI supplements Table X and shows how the end results of an acid-alkali sequence are influenced by maximum temperatures in the first stage and with 15 per cent  $\text{SO}_2$  solutions. As in several other cases not cited, temperatures of 120° C. bring about a major sacrifice in yield and some additional reduction in pentosans. On the other hand, the chemical change in lignin as caused by the high temperature pretreatment is reflected in high lignin content of final pulp.

No attempt is here made to translate the results of the above tables into terms of large scale application. Recycling of gas, reuse of spent liquors and ultimate recovery of chemicals is obvious.

## Canadian Company Which Will Build New Mill STARTS PULPING EXPERIMENTS



SITE OF THE NEW DUNCAN BAY PULP MILL on Vancouver Island is shown here in relation to power plant, and other east coast centers of Vancouver Island.

As a preliminary to its plans for converting logging debris into commercial market pulp, Comox Logging & Railway Co., subsidiary of Canadian Western Lumber Co., Vancouver, B. C., as announced in our January issue, has enlisted the co-operation of Soundview Pulp Co. of Everett, Wash., in a series of processing experiments.

A newsprint mill as well as a pulp mill (probably kraft) will be built by this company at Duncan Bay on Vancouver Island.

In January a shipment of typical small logs from the Comox Logging & Railway Co.'s logged off areas on Vancouver Island was put through the Everett bleached sulfite mill, and the processes were closely followed by representatives of the Canadian government's forest products laboratory at Point Grey—J. W. Guernsey, chief of utilization and seasoning division; Dr. Gardiner, wood chemist, and Richard Nixon, forest products engineer, as well as by members of the Comox organization.

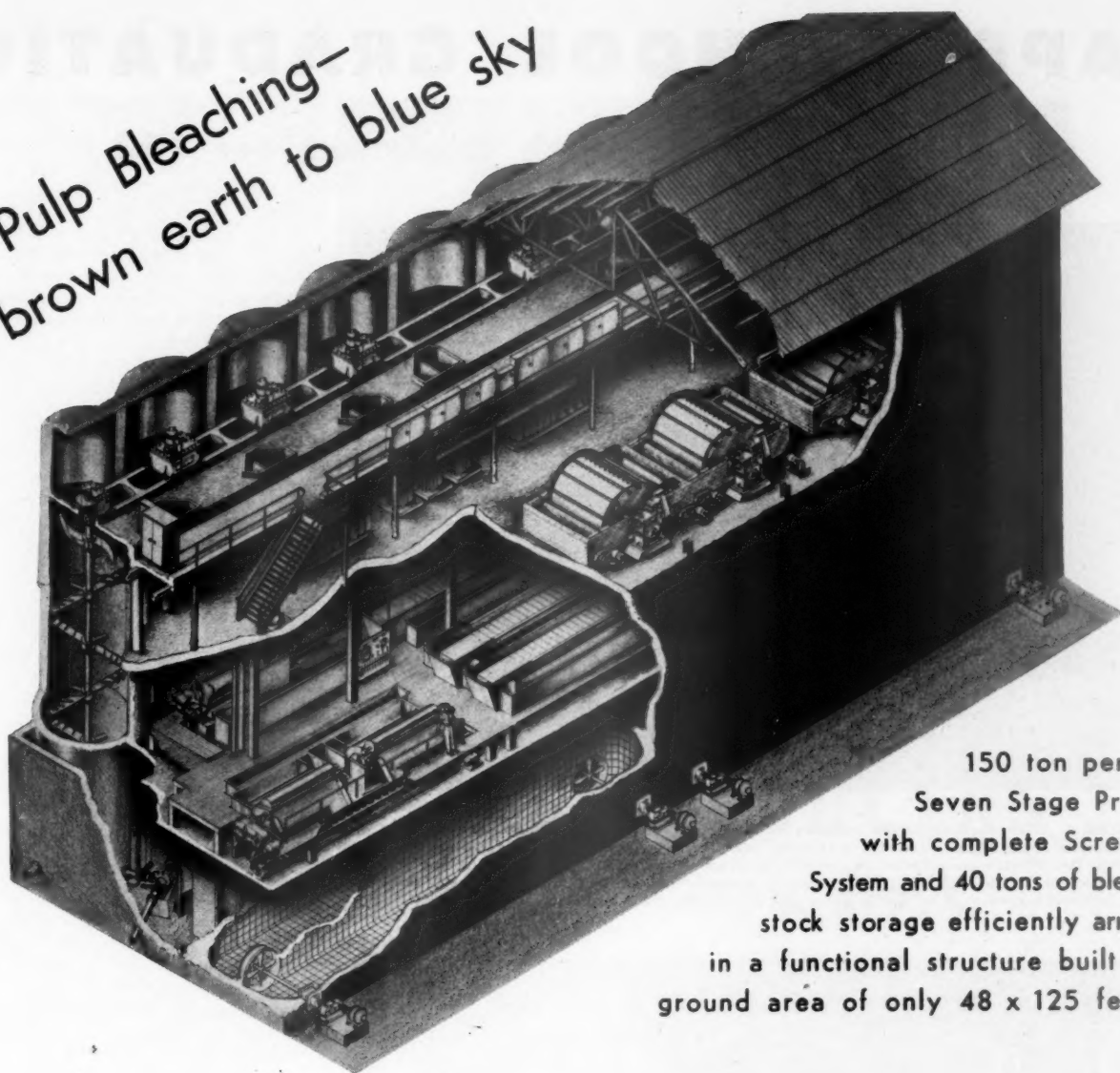
Purpose of the experiments was to demonstrate the practicability of utilizing small log debris from cut-over lands in a pulp mill and to determine the most efficient methods for such an operation. An opportunity was also provided for testing the technique for shipping and handling the small logs.

Canadian Western, parent company of the Comox organization, has made application for a forest management license to cover some 800,000 acres of timberland on northeastern Vancouver Island, adjacent islands and a section of the British Columbia mainland, the purpose being to develop a sustained yield program to support a modern pulp mill, to be built at Duncan Bay, near Campbell River.

While waiting for the application to be dealt with by the British Columbia government, the company is proceeding with its utilization experiments.



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from brown earth to blue sky**



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Seven Stage Process  
with complete Screening  
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in a functional structure built on a  
ground area of only 48 x 125 feet.

As part of its progressive development program Gaylord Container Corporation required a bleaching plant of great flexibility, capable of producing efficiently a wide range of grades. This problem and a limited ground area were assigned to Pulp Bleaching Company. The result was the compact, unit-engineered installation shown here in isometric view — PBC designed and equipped "from brown earth to blue sky."

# PULP BLEACHING COMPANY

DESIGNERS AND BUILDERS OF PROCESS EQUIPMENT

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SEATTLE 4, WASHINGTON

# PAPER SCHOOL GRADUATION

## 15th Year Ends With Diplomas for 163



DR. RAYMOND B. ALLEN, President of the University of Washington, who made the principal address at the Crown Willamette Paper School graduation is in lower left, looking on, as RAYMOND P. HATCH, Research Director, Pulp Div., Weyerhaeuser Timber Co., receives honorary degree. A. G. NATWICK, Asst. Res. Mgr. at Camas and Dean of the School (at right) is conferring the award. W. C. JACOBY, Principal of the Second Year Class and Technical Supervisor of the Camas mill, stands between Mr. Hatch and Mr. Natwick.



FOURTH YEAR CLASS OF PAPER SCHOOL left to right, seated: James Alfred Butterick, Jr., Charles Burton Clemans, Donald Caleb Cross, Frank Raymond Humm, Donald Walter Huycke, Harold Clinton Johnson. Standing: Edward Thornberg Parker, Jr., Gene Quilici, Berni Odin Reese, Roland Carl Rieman, Carl Emerson Sherrell, Joseph Allen Stewart, Charles Norman Zorn.

THIRD YEAR CLASS left to right, front row: Robert Aloys Allen, John Leroy Buchholz, Victor Earl Bush, Charles Henry Butler, Herman Wade Byers, Andrew C. Catto, Vernon Cox, Julius A. Gould, Dennis Adney Holland, Mark Vinton Holliday, Bernard Joseph Jacoby. Rear row: Raymond W. Janz, Albert Otto Muench, Wendell Lawrence Myers, Joseph James Nieoermeyer, Donald M. Platt, Jim Rook, Thomas J. Shurm, Ross Lawrence Trieman, Kenneth George Weidman, Don J. Larios was absent.

The Crown Willamette Paper School, which has been referred to as "one of America's most unique and progressive adventures in industrial education," held its 15th annual graduation at Camas, Wash., March 11.

This university-accredited school of Crown Zellerbach Corp., for company employees, has now totaled 2,000 student years of industrial education. Four-year diplomas have been awarded to 203 individuals who have completed the school's full curriculum. Of these graduates, seven are now members of the faculty, while also holding executive positions in the company.

This year's classes totaled 163, the largest group graduation since 1941-42. Thirteen were students completing the fourth-year courses, 21 the third year, 47 second year, and 82 the first year. Students were from the Camas and West Linn mills, Crown Willamette Paper Co., Portland; Zellerbach Paper Co., Portland; Western Waxed Paper Co., North Portland, and the logging department's Molalla operations.

Frank A. Drumb, resident manager at Camas, and a regent of the paper school, welcomed guests, faculty, graduates and students.

Dr. Raymond B. Allen, president of the University of Washington, delivered the graduation address, in which he pointed out the relative youth of civilization and how much progress has been made in such a relatively short period of history. Our educational opportunities are our greatest heritage, he told the group, and pointed to the pulp and paper industry as a prime example of advantages of people working together on fundamental problems. Together and only together can we build," he emphasized.

"Without paper our whole civilization would collapse," he said, in discussing the importance of paper in the modern world.

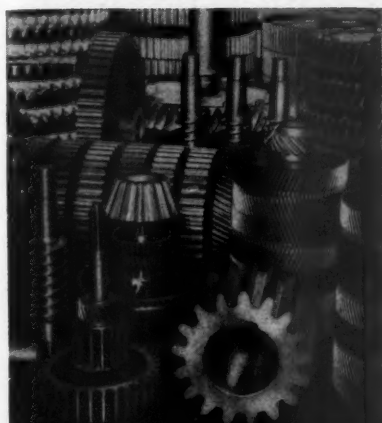
Dr. Allen also stressed the importance of craftsmanship and honest work for an honest dollar. Only by persevering in these qualities can man retain his respect and dignity—"lose dignity and man becomes a slave; with it man retains manhood," he said.

J. E. Hanny, vice president of Crown Zellerbach and also a regent, presented the diplomas. The graduates of the fourth year class also were presented with a copy of the school's own publication "Making Paper" by Messrs. Natwick, Nunn & Rawlings.

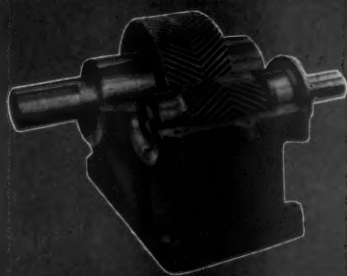
A. G. Natwick, assistant resident manager at Camas and dean of the school, was master of ceremonies. He also presented several special awards.

Roland Rieman, of West Linn, and Frank Humm, first and second place honor students, respectively, of the fourth-

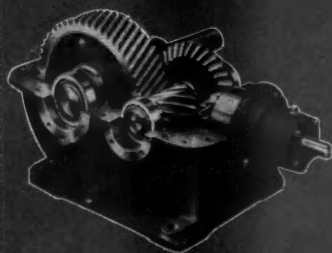




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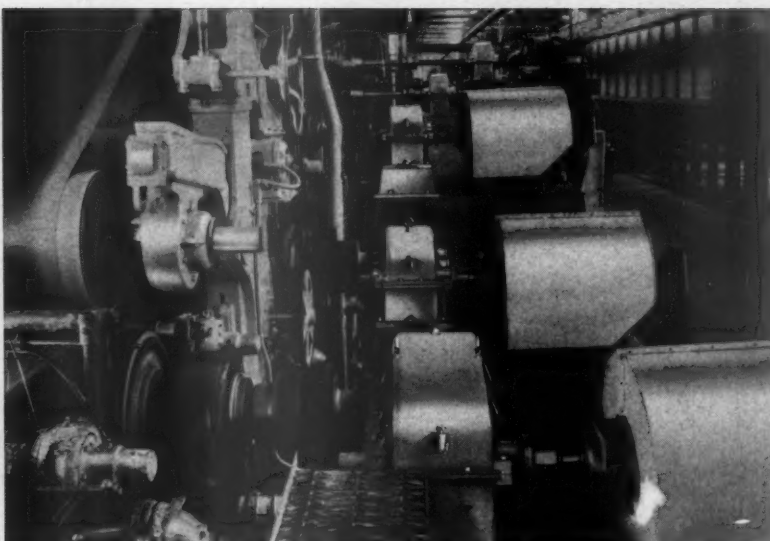
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# **PACIFIC-WESTERN**



GEAR PRODUCTS



HERE ARE THE TWO LARGEST CLASSES of the Camas Paper School. Second year class is at the top and the first year class below. It was not possible to identify all students and their professors as they appear in the pictures. But following are the second year students: Curtis Asher, Franklin Lewis Booth, Willard S. Boutwell, Farley Cyrus Brown, Delbert M. Bush, Kenneth F. Byington, Frank E. Caskey, Leslie J. Champion, Jr., Fred Levi Curtis, Harold A. Daniels, Francis Thomas Dowdy, Thomas F. Drennan, Donald Clair Eldredge, Henry E. Erickson, Wm. A. F. Foster, Leonard Robert Greger, Jerry John Goggins, Henry Charles Harris, Thomas William Hart, Stanley Charles Janik, Verner Wilbur Josephson, William Henry Kraft, Tom W. Leedham, Jr., Roy L. Leighton, Dean Elmore Lindgren, Edward Andrew Lukowski, Lonita Helen McCoy, Lester L. Miller, Alton L. Morris, Wilbur Howard Niehaus, Arthur O. Perrault, Leo M. Poser, Robert W. Riley, Frank C. Rogers, Howard Zeb Rondeau, Cecil L. Rowland, Harold A. Sandstrom, Thomas B. Scarfone, Vernon William Seekins, Helma S. Sherman, Frank Edward Stevens, Millard V. Stout, John Glen Taylor, Melvin Quincy Tucker, Georgia Monroe Warwick, Robert L. West, Gilbert William Winslow.

Camas Paper School first year students are: Louise Allen, Fitzhugh Lee Ashe, Don Philip Ashton, Gordon A. Atkins, Franklin A. Ackerman, Charles M. Begley, Floyd E. Blair, Donald A. Boettcher, Violet L. Boettcher, David Arnold Boyles,

Robert B. Bruning, Claude F. Chevron, Philip Ira Christy, Dudley F. Church, Kenneth Wendell Clark, Robert Lloyd Cochran, William Bays Cook, Jr., Francis L. Crawford, June Metcalf Crawford, Max Leon Custis, William G. Daggett, Paul Theodore Davis, Elizabeth Mary Day, Floyd A. Dickson, Walter A. Dism, Harry J. Dittenbaugh, John Joseph Donovan, Earl LeVant Ellis, Glen Byron Eakin, Harold Marse Finlay, Kermit H. Fisher, Grover John Fox, John L. Forrester, Margaret E. Gibbs, Frederick Gale Gibson, Absolem Goins, Alfred Herbert Grande, Ronald B. Guenther, Harold Sylvester Gustafson, Lester O. Hagen, Howard Cary Hall, George High Harrington, Clarence E. Harris, Charles Roosevelt Hash, William E. Heater, Howard Hoffman, Frank I. Homar, Robert Marshall King, John Krutsch, Philip Edgar Langland, Eddie Milton Lindskog, Bob George McCoy, John W. McGimpsey, Terry Vincent Monahan, Lester Curtis Moore, Robert M. Moorehead, Donald M. Newkirk, James C. Nissen, Robert H. Olds, Frank Scott Payne, L. C. Personett, Donald A. Ross, Sam R. Runyan, Elsie C. Russell, Robert Russell, Leonard Frank Salmi, Everett William Salmi, Fred L. Schmidt, John K. Spence, Ed A. Stamm, Robert M. Standefer, Robert Gearey Stewart, John Millard Sykes, Paul Clayton Thomas, Ruben Arthur Vogel, Hubert Joseph Vreath, W. Jane Walker, Wendell Lee Warren, Ralph John Williams, John Clinton Woodward, William Wells Woodworth, J. F. Wuenschel.

year class were given a week's expense-paid trip to visit the Washington state mills. Other honor awards: Andrew Catto, Portland office, first in third year, received a 3-volume set of "Pulp & Paper Manufacture," and Charles Butler, West Linn, second, received George S. Witham, Jr.'s "Modern Pulp and Paper Making."

Robert West, West Linn, first in second year, was awarded "Papermaking" by Dard Hunter, and Thomas Hart, Camas, second, received Witham's book. Philip

Langland, West Linn and Absolem Goins, West Linn, first and second in first year, received the same awards, respectively, as the second-year winners.

Honorable mention awards consisting of one-year subscriptions to **PULP & PAPER** were received by the following—first year, Kenneth Clark, Ed A. Stamm, Howard Hoffman; second year, Kenneth F. Byington, Leslie Champion, Howard Rondeau; third year, Donald M. Platt, Herman Byers; fourth year, Donald Cross

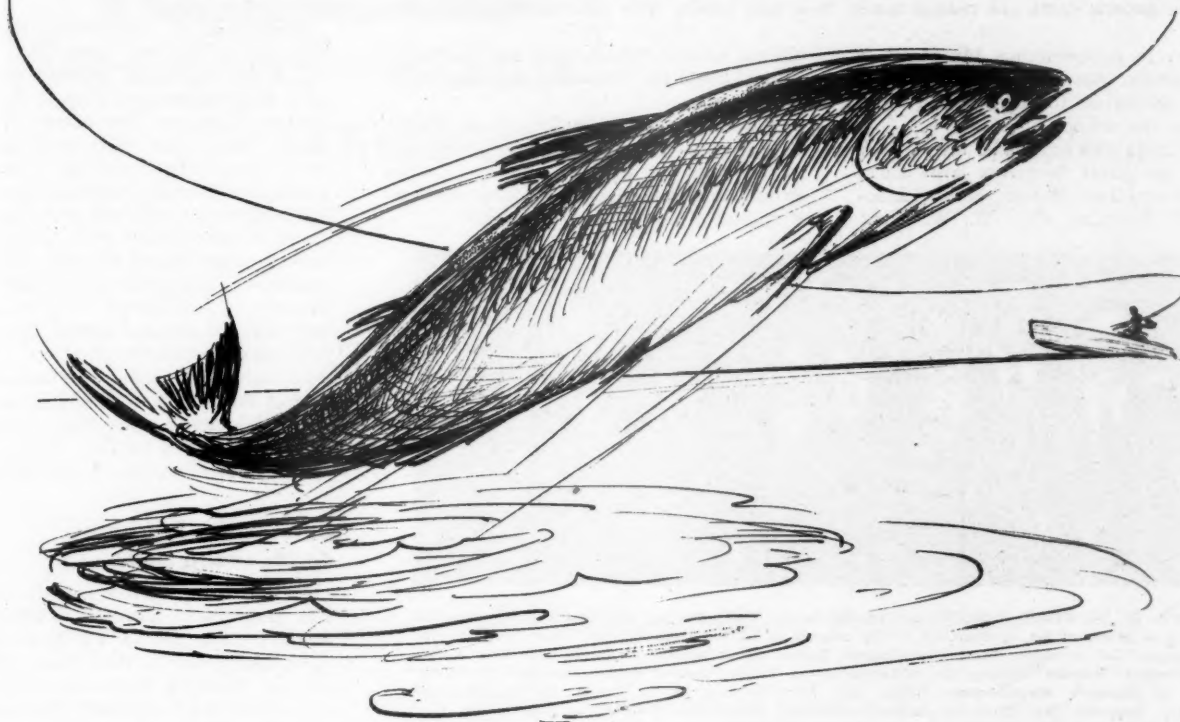
and Bernt Reese.

Willard S. Boutwell, West Linn, who has completed the four-year course and is now completing the second two years again, was awarded "Paper Making Through 18 Centuries" by Dard Hunter for perfect attendance of class and mill work and top grades.

Raymond S. Hatch, research director, pulp division, Weyerhaeuser Timber Co., and frequently a lecturer at the school, received an honorary degree of doctor of



# Land of the Tyees



ONE of the world's greatest sporting fishes—the mighty Tyee Salmon—makes its home in the waters off the coast of Vancouver Island. Campbell River, the Alberni Canal and other parts of the Island have drawn anglers from all over the world—and invariably their quest has been rewarded.

Vancouver Island—famous for its big salmon and its big trees—the tall Douglas fir, the cedar and the hemlock, provides the raw material for pulp mill and sawmill enterprises of Bloedel, Stewart & Welch, Ltd.



UNBLEACHED SULPHATE PULP MILL, PORT ALBERNI (Vancouver Island)

**BLOEDEL STEWART & WELCH, LIMITED**  
VANCOUVER, CANADA

APRIL, 1948

57



SIX OF THE HONOR STUDENTS of Crown Willamette Paper School (l. to r.): ROLAND RIEMAN, FRANK HUMM, Fourth Year; ANDREW CATTO and CHARLES BUTLER, Third Year; ROBERT WEST and THOMAS HART, Second Year.

philosophy in papermaking. Mr. Hatch is the first person outside of the Crown Zellerbach organization to receive such a degree from the school.

Among men who supported the school's program as guest lecturers are Harry Richmond and Jack Wilcox, both of Electric Steel Foundry Co.; W. W. King,

Oliver United Filters, Inc., and Pierre R. Hines, Stephens Adamson Manufacturing Co.

For winning top Pacific Coast honors in a recent nation-wide superintendents' essay contest, F. R. Sievers, Camas groundwood mill supervisor, also received a special citation by the school.



THESE MEN OF THE COAST INDUSTRY participated in the TAPPI meeting at Camas, Wash., Jan. 16, presenting a review of the opportunities in the industry to 60 honor guests from seven Pacific Northwest colleges (left to right): Front row—Clarence Richen, Chief Forester of Crown Zellerbach Corp.; Tom Nicholson, Simpson Logging Co., who presented Shibley contest paper; Raymond S. Hatch, Director of Research, Weyerhaeuser Timber Co., Pulp Division; M. E. Kinsey, Central Chemical Laboratory, Rayonier, Inc.; R. P. Wollenberg, Chief of Engineering Division, Longview Fibre Co.; Rear row, Wm. R. Barber, Technical Director, Crown Zellerbach Corp., who sponsored the program; Ed Heacox, Manager of the Co.'s Forestry Dept., Weyerhaeuser Timber Co.; Dr. W. W. Moyer, Director of Research, Crown Zellerbach Corp., Moderator of the program; R. I. Thieme, Technical Director, Soundview Pulp Co.; Robert G. Misphey, Central Research and Technical Department, Crown Zellerbach Corp.

### Newsprint Mill Construction Begins

Pacific Paperboard Co., Longview, Wash., has cleared ground close by the present plant for the Moore & White 100-ton news machine (announced in August **PULP & PAPER**). Roads and rail siding have already been built for the plant and piling were driven two shifts per day during March, with the project to be completed early in April.

Green wooden piling are used below water level with eight feet of concrete pile extending above the wood. These are to be used throughout the entire foundations, including 60 by 400 foot machine building, 80 by 160 foot pulp and stock preparation building, and 50 by 50 foot breakdown plant. The paper machine will set 18 feet above the ground level.

The new machine will be making paper next November, according to Harry C. Huse, director of public relations.

### Lockport Felt Election

At the annual stockholders' meeting the directors of the Lockport Felt Co. elected former Senator William H. Lee as president and chairman of the Board of Di-

rectors and his son, Raymond J. Lee, as executive vice president and treasurer. Since his return from service in the U.S. Navy, Raymond J. Lee has assumed direction of mill activities at the request of his father. This authority has been broadened and he will now have complete charge.

Lester J. Robinson was elected a new director and others renamed by the stockholders are: Mrs. Elizabeth M. Lee, Lester D. Carner, William W. Campbell Jr., William E. Miller, Roy T. Yates, and Bertram A. Audley.

Mrs. Lee was elected first vice president by the directors and Mr. Audley was named second vice president in charge of sales and assistant treasurer. Mr. Carner was elected secretary and Edna Wilson, assistant secretary. Mr. Miller was named corporation counsel of the company.

The new executive vice president announced that Mr. Robinson now is manager in charge of plant operations. Howard F. Brown, Newfane, is mill superintendent, and Raymond J. Capen, Newfane, assistant superintendent. C. Joseph Price, Lockport, is comptroller.

### "Draper's Atlas" Is Valuable Reference

A valuable and interesting reference book is "Draper's Atlas of Papermaking" compiled by William Bond Wheelwright of The Calloway Associates of Boston for Draper Bros. Co., felt manufacturers.

A page is devoted to each state, with a map showing location of mills and a short discourse on the character of the industry in the state and some of its history. Mr. Wheelwright's historical works on papermaking have previously come to attention of this industry.

According to this Atlas, New York, Wisconsin, Michigan and Ohio rank in that order as leading papermaking states, with Washington state first in pulp manufacture, followed by Maine. There is much other interesting information on mills and products and as for history, it recalls the famous Rittenhouse mill near Philadelphia, which had no competition in the U. S. from 1690 to 1710. But with mills in every state except Georgia when Washington was inaugurated, the new country became self-sufficient — yet consumed only one pound per capita compared to 340 pounds or more today.

Historical references also included mention of the first New England paper center at Newton Lower Falls, Mass., later to be superseded by Lee, Mass., and still later by Holyoke, the "Paper City."

### \$2,000,000 Program At Manitoba Mill

During the past few months a \$2,000,000 program to increase newsprint production from 300 to 400 tons daily has been under way at Pine Falls, where the Abitibi Power & Paper Co. operates one of its busiest subsidiaries, Manitoba Paper Co. Pine Falls, 150 miles northeast of Winnipeg, is Manitoba's only pulp and paper mill.

Among recent new installations at the mill have been a Cowan groundwood screening system, a bull screen system, sulfite screening system, Canadian Ingersoll-Rand trunnion barking drums, hot pond building, new refuse handling system, grinder lines and a 60' boiler house extension to accommodate two new Babcock & Wilcox boilers.

A new hotel building is another Pine Falls acquisition. This comprises 70 rooms.

T. E. Silver is mill manager at Pine Falls, and general superintendent is J. T. Carey.

### Southern California Merger

Butler Paper Co. announces through their subsidiary, Sierra Paper Co. of Los Angeles, a merger with O'Keefe Paper Co. of Los Angeles. The new company will be known as Sierra Paper Co. of Southern California.

Thomas A. O'Keefe, president of O'Keefe Paper Co., will join Sierra as a board member. Paul Butler will be president of the new company. Timothy F. O'Keefe will be vice president and general manager and John F. Bireley, secretary and treasurer.

**RAYONIER**  
INCORPORATED

## WOOD CELLULOSE ► *is dependably uniform*

Rayonier's wood cellulose is supplied in several grades to provide the special characteristics required for manufacture of the various types of products in which cellulose is used.

Quality control in production of these high-alpha grades of cellulose assures the constant purity and uniformity required in making viscose and acetate fibers, cellophane, and various cellulose derivatives.

In addition to development of new and improved grades of wood cellulose, one of the principal functions of our research staff is the study of the processing characteristics of our products under conditions similar to those found in our customers' plants.

### Principal Grades of Rayonier Wood Cellulose



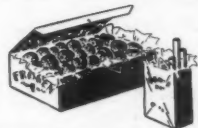
"**RAYACETA**" is a highly purified wood cellulose specially developed for the production of cellulose acetate fibers. It also is used in the manufacture of acetate films and sheets for packaging purposes.



"**RAYOCORD**" wood cellulose is a highly purified product especially suitable for the production of viscose yarns of high tensile strength. It is widely used in the manufacture of tire cords and for textile yarns where maximum strength is desired. It is also a good material for the production of saturating papers and vulcanized fiber.



"**HICOLOR**" is an established grade of purified wood cellulose for the production of viscose fibers and yarns of high quality. It is also used as a base material for vulcanized fiber and related products.



"**RAYAMO**" is a wood cellulose specially developed for the making of cellophane, used increasingly as a protective covering for fruits, vegetables, cigarettes, candy, and numerous other packaged articles.

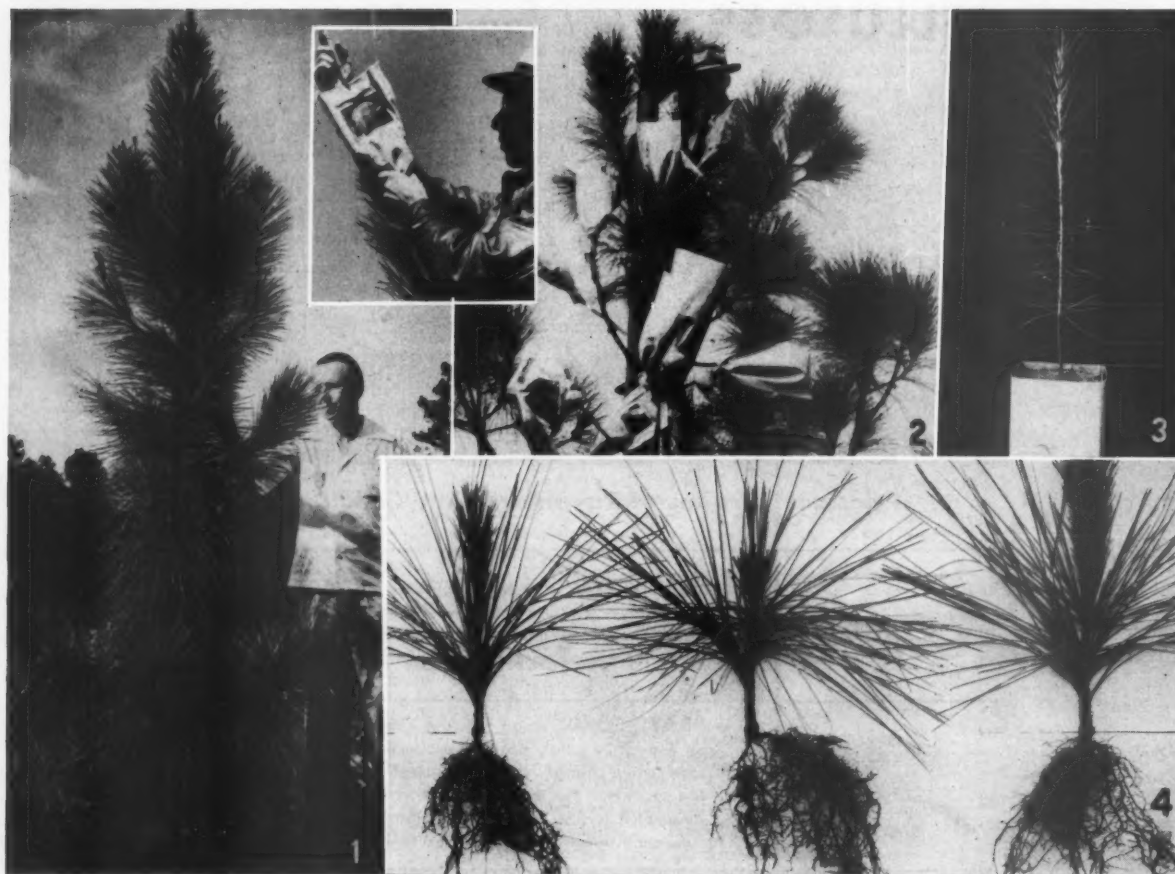
**EXECUTIVE OFFICES:** 122 East 42nd Street, New York 17, N. Y.  
**MILLS:** Hoquiam, Port Angeles, and Shelton, Washington; Fernandina, Florida.





"The most effective way to encourage the growing of trees is to develop profitable reasons for cutting them down." — (A. G. T. Moore, Southern Pine Assn. executive, in 1938).

## SUPERIOR STRAIN OF TREES DEVELOPED



1. Keith W. Dorman, of the Lake City (Fla.) Branch (U. S.) Southwestern Forest Experiment Station, stands beside a rooted cutting slash pine that was 3 years, 8 months from the tree. This cutting was 7 feet, 9 inches tall. 2. Having proven up a high producer slash pine tree, the slender leader of the tree is reinforced to permit the breeder to reach the flowers on the uppermost branches. The "windowed" canvas bags enable the breeders to watch the development of the female flower (cone) so that it may be pollinated at the proper time. At the proper time, the breeder introduces the male pollen by inserting a hypodermic needle into the canvas bag. 3. A slash pine seedling 6 months old. 4. Rooted cuttings from superior gum yielding slash pine. After superior pines have been developed by breeding they may be propagated by cuttings. (U. S. Forest Service pic.)

Development of a superior strain of (Southern) slash pine that will yield  $2\frac{1}{2}$  times the average gum of the naval stores industry is being effected by the U. S. Forest Service at the Lake City, Fla., experiment station.

It has been noted that occasional slash pine trees had a yield in naval stores operation far and above the average. Knowing that many high yielding domestic varieties in garden and orchard were derived from wild strains, the Forest Service embarked on a study to establish such a strain for the naval stores industry in pine.

In accomplishing this for the naval stores industry, it is also being effected for the pulp and paper industry's hundreds of thousands of acres of pine lands in the southeastern states, as well as for

the lumber industry.

Time has been that lumbermen did not go for anything but "round timber" and the paper industry has shied off from the concentration of pitch in the first cut of a tree that has been tapped for gum.

However, the use of the acid method of extracting gum yield from slash and long leaf pine has changed all this. Now, by the acid treatment, it is possible to extract the gum for naval stores without chipping, bark removal only being necessary. Another factor is that the acid method derives in two years' operation the gum yield formerly requiring 3 or 4 years.

To develop high yielding strains of turpentine pines it was first necessary to find superior individuals in existing stands, and then develop methods for

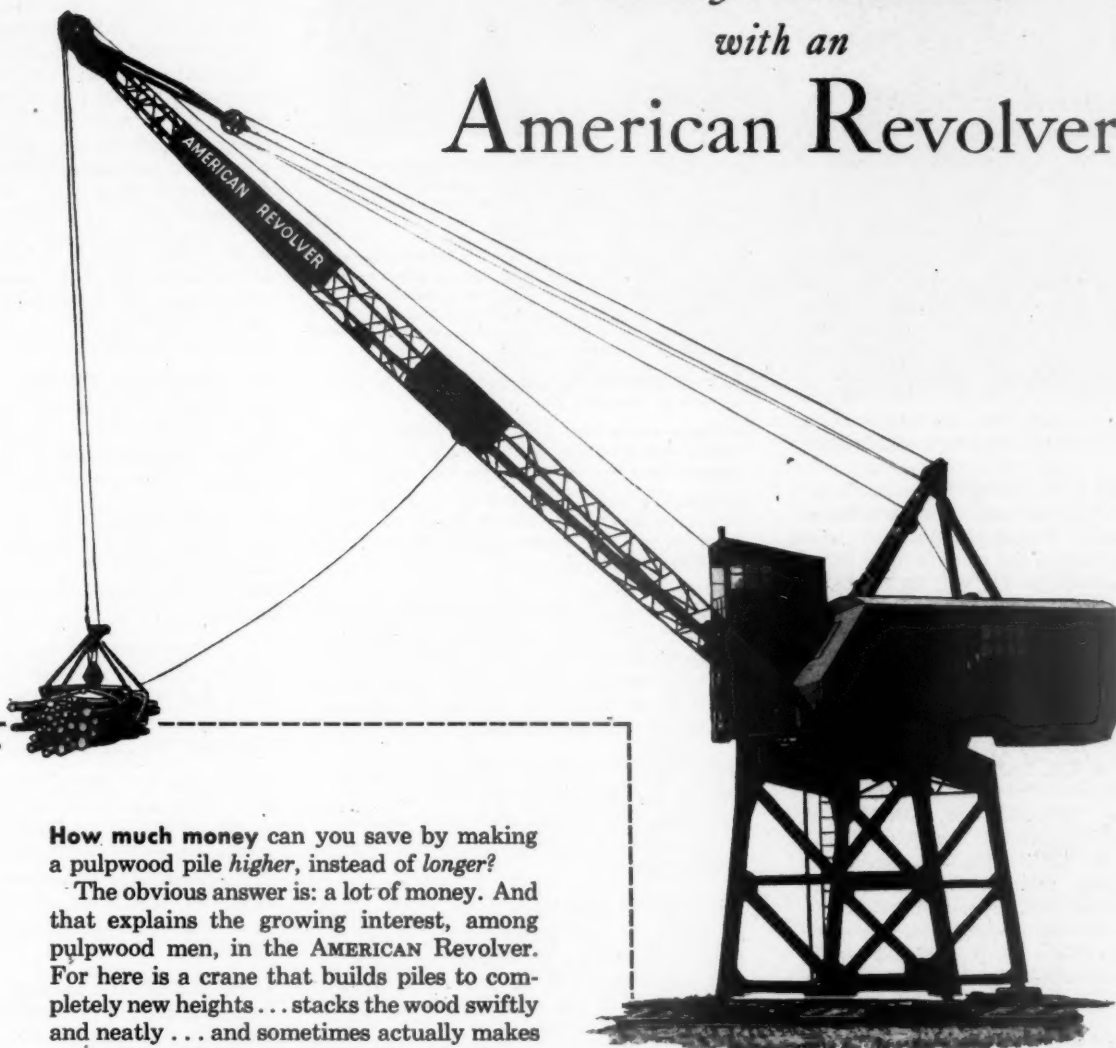
their propagation. Programs for both discovery and propagation methods were started simultaneously by the Lake City, Fla., station in 1942.

The word was sent out to the industry to report apparently superior yielding trees. These so reported were closely checked by identical chipping. That year a dozen trees were proven up as twice or two and a half-times as productive as others in the same stand, all conditions being equal.

From there began an extensive and tedious task. For one, propagation of the superior gum yielding trees involved climbing to their tops and encasing of female flowers (cones) in canvas bags having plastic windows so that observers

(Continued on page 74)

# The Sky's the Limit with an American Revolver



**How much money can you save by making a pulpwood pile *higher*, instead of *longer*?**

The obvious answer is: a lot of money. And that explains the growing interest, among pulpwood men, in the AMERICAN Revolver. For here is a crane that builds piles to completely new heights . . . stacks the wood swiftly and neatly . . . and sometimes actually makes a small ground area more valuable than a great, sprawling storage yard.

Made in five basic models, the AMERICAN Revolver offers stationary or gantry-mounted installations, with boom lengths up to 150 feet; lifting capacities up to 150,000 lbs. Power may be electric, steam, gasoline, diesel or diesel-electric. Equipped with grapple, hook, sling or bucket, these jumbo cranes have unlimited usefulness in moving other materials, too. Write for detailed information.

## American Hoist

and DERRICK COMPANY

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CROSBY CLIPS  
LOCOMOTIVE CRANES  
AMERICAN HANDWINCH  
LEVEL LUFFING CRANES

APRIL, 1948

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# Personals

## SOUTH

### Albert Rozyskie Now Manager at Camden

Albert G. Rozyskie has been named mill manager of the International Paper Co.'s Southern Kraft Division unit at Camden, Ark., succeeding Paul J. Sievert, who has been transferred to the Mobile, Ala., central office for special duties. Mr. Rozyskie was promoted from the post of assistant mill manager.

Mr. Sievert was honored by a barbecue supper and party given in his honor at the country club by fellow employees and company officials. Mr. Sievert became associated with the Camden mill in 1932.

DR. WARD D. HARRISON, formerly assistant general manager at Ecusta Paper Corp., Pisgah Forest, N. C., has been named assistant to the general manager of Riegel Paper Corp. He will be in charge of southern operations. The Riegel company, it is understood, will erect a mill on its site at Acme, N. C., where it owns 140,000 acres of forest land.

E. A. KENDLER, formerly listed as plant manager for St. Marys Kraft Corp.'s mill at St. Marys, Ga., has been made general manager since the expansion of the facilities there. GEORGE W. BRUMLEY, formerly chief chemist, has become mill manager. W. G. GRAY, JR., serves as plant engineer and W. J. WILKS continues as paper mill superintendent. R. C. RICHTER, formerly research engineer for National Container Corp., at Jacksonville, Fla., has succeeded Claud Christianson as pulp mill superintendent.

LEONARD R. GROWDON, formerly manager of the Mead Corp.'s mill division at Lynchburg, Va., has been made operating supervisor for the company's board mills. He was succeeded at Lynchburg by Paul Ellis, who had been manager at Sylvia, N.C.

NEWMAN H. DOTSON, of North Carolina Pulp Co., Plymouth, N.C., was presented with a gold Hamilton watch in commemoration with his completing 40 years with the company. The presentation was made by H. M. Kieckhefer, company president.

FUNERAL SERVICES were conducted in Pensacola, Fla., recently for the late James G. Pace, whose 92,000 acres of Florida forest lands served as the nucleus for Florida Pulp & Paper Co. and its newest companion, Alabama Pulp & Paper Co., both St. Regis Paper subsidiaries. In 1929, Mr. Pace refused to sell his holdings to International Paper because he wanted a manufacturing plant at Pensacola. In 1937 he negotiated with James H. Allen leading to formation of Florida Pulp & Paper Co.



HERE IS W. W. "BILL" HENDERSON and his two sons, who are now reorganizing their division of work in representing several pulp and paper equipment companies in the South.

J. A. "CHIC" HENDERSON (left), who after an extended period of factory training and other experience, topped off with six months' close work with his father, is taking over the Texas, Louisiana, Arkansas and Mississippi territory and will make headquarters in Shreveport, La.

W. W. HENDERSON, in middle, who remains in headquarters in Pensacola, Fla.

RICHARD HENDERSON (right), who has been obtaining factory training and eventually will assume responsibilities in a territory in the Southeast.

Henderson & Sons represent E. D. Jones & Sons, Kalamazoo Tank & Silo; DeZurik Shower Co.; Earl Paint Co., and eleven other supply firms for pulp and paper mills.

WALTER E. DAVIS is works manager for the new Inland Container Corp.'s plant, which will draw its supplies from Macon Kraft Corp.'s mill in Macon. Macon Kraft Corp. is jointly owned by Inland Container and Mead Corp.

HAROLD M. MORRIS, general superintendent for Mobile Paper Mill Co., Mobile, Ala., was named secretary-treasurer of the Southern Division, Superintendents' Association.

WILLIAM HAHN has been named superintendent of the Mobile, Ala., plant of Arkella and Smith. He was formerly assistant superintendent at the Canajoharie, N. Y., plant of the company, which produces multiwall bags. The Mobile plant started production in January.

RECENT PROMOTIONS at the Mobile, Ala., mill of National Gypsum Co. include Dan Willis to be board mill superintendent; and Hugh Harretson to be floor foreman. Promotions were announced by Colon Brown, mill manager.

CURTIS S. WALSETH, formerly of the Institute of Paper Chemistry, has joined the staff of Union Bag & Paper Corp.

GEORGE L. CLARK, staff pulp superintendent of Kimberly-Clark Corporation, who was largely responsible for the overall technical planning of the LongLac Pulp & Paper Co. project at Terrace Bay, Ont., is now doing a similar job for the Coosa River Newsprint Co., which will be built under Kimberly-Clark direction at an estimated cost of \$32,000,000.

CLAUD CHRISTIANSEN, who served as pulp mill superintendent for St. Marys Kraft Corp. mill at St. Marys, Ga., has gone back to the West Coast where he is associated with the Sulfate Pulp Division of Weyerhaeuser Timber Co.

JAMES L. COKER, president of Sonoco Products Co., received the Rotary Club Award as being Hartsville's (S. C.) most outstanding citizen of 1947.

HUGH COMER, president and treasurer of Avondale Mills, Sylacauga, Ala., has been elected to the board of directors of Allis-Chalmers Mfg. Co. Mr. Comer is a brother of Ronald Comer, chairman of the board of Avondale and also of Coosa River Newsprint Co., the latter concern now being engaged in the early stages of planned construction of a \$32,000,000 newsprint mill at Childersburg, Ala.

J. M. ARMSTRONG, SR., bag mill superintendent at the Gulf States Paper Corp., Tuscaloosa, Ala., received a special pin award marking completion of 35 years with the company.

M. LEONARD BAUER, who formerly served as traffic manager for Ecusta Paper Corp., Pisgah Forest, N.C., has been named export manager. F. S. Best has been named manager for the sales service.

E. PUTNAM HEAD, formerly manager at Buffalo, N.Y., became Southeastern division manager for Mason-Neilan Regulator Company, with headquarters in Atlanta.

M. H. COURTENAY has been named assistant district manager for SKF Industries, Inc., in Atlanta, Ga. He had been serving as field engineer and had been with SKF for 20 years.

WILLIAM H. ("BILL") JOHNSTON, of F. N. Johnston Co., manufacturers agent in New Orleans for Reliance Electric & Engineering Co., as well as Dodge Mfg. Co., is scheduled to become a benedict on April 10. The bride will be Miss Moon-yeen Marion, daughter of Mrs. James G. Schillin.

L. M. KEATING, assistant to the president in charge of distribution of the A. O. Smith Corp., has been appointed executive administrator of the company's Southwest District Office in Houston, Texas, which takes in the pulp and paper industries of Texas, Louisiana and Mississippi in its nine-state orbit.

ROBERT C. BLACK, formerly manager of the Pittsburgh district for Westinghouse Electric Corp., has become sales promotion manager for the Southeastern district with headquarters at Atlanta, Ga. He succeeded J. W. Brooks, who took the Southern territory for Scripto, Inc.

CLARENCE C. LANDE has been appointed chief engineer for the Coosa River Newsprint Co., according to an announcement made in Birmingham, Ala., by A. G. Wakeman, vice president and general manager for the new Alabama mill. Mr. Lande is currently field service division engineer heading construction and erection for the Kimberly-Clark Corp. at Neenah, Wis., and will assume his new duties in the early summer. Herbert G. Gaustad has been assigned by J. T. Whelan, Kimberly-Clark chief engineer, to take over from Mr. Lande the coordination of field service activities at Neenah.



## TIMBER FOR SALE AUCTION

Southeast Quarter (SE $\frac{1}{4}$ ) Section 24  
 Northeast Quarter (NE $\frac{1}{4}$ ) Section 25  
 Northwest Quarter (NW $\frac{1}{4}$ ) Section 34  
 Southeast Quarter (SE $\frac{1}{4}$ ) Section 27  
 Southeast Quarter (SE $\frac{1}{4}$ ) Section 14  
 Northeast Quarter (NE $\frac{1}{4}$ ) Section 36  
 (The quarter in Section 36 has been logged).  
 All in Township (8) South, Range (9) West W.M.

### ALL IN LINCOLN COUNTY STATE OF OREGON

Auction will be held at 10 A.M., Monday, May 24th, 1948, Room 231, Hotel Multnomah, Portland, Oregon.

No bid will be considered unless it is for the whole of said property and for cash. Ten per cent of the total amount of the accepted bid must be paid to the owners upon acceptance of the bid.

The right to reject any and all bids is reserved.

The owners make no representations as to kind, quality, or quantity of timber.

Owners will furnish the successful bidder abstracts of title showing merchantable title to said property within thirty (30) days from the date of the auction; and he will have fifteen (15) days from the date that the owners deliver the abstracts of title covering all of the property, within which to examine such abstracts.

Immediately upon expiration of above fifteen (15) days, if abstracts show merchantable title, at a place in Seattle to be designated by owners, sale shall be closed by payment of full balance of purchase price in cash, and delivery by owners of warranty deed, subject only to reservations contained in United States patents under which title to property was acquired.

Financial reference of owners: Seattle First National Bank, Metropolitan Branch.

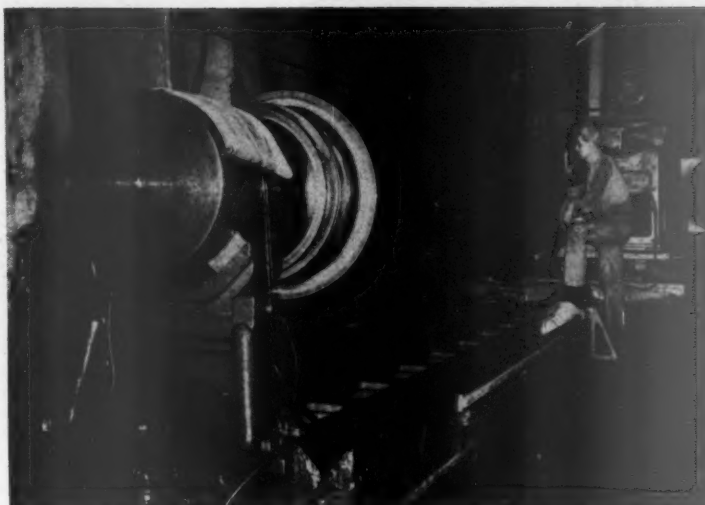
**OWNERS:** John H. Davis, Harry H. Cloutier, Margaret S. Cloutier, and the Trustees under the will of Frances B. Smith, deceased. Address: 1217 Federal Avenue, Seattle 2, Washington.

The following information is not to be relied upon by bidders as the basis for any bid on the timber, and is not to be taken as a representation as to the timber.

A cruise of this timber, completed in June, 1947, by John P. Van Orsdel, 1411 Fourth Avenue, Seattle 1, indicated approximately 60,000,000 feet of timber, estimated to be 86 per cent high quality Old Growth Douglas Fir, 2 per cent Red Cedar, 12 per cent Western Hemlock.

### THIS PICTURE SHOWS

grinding of "king roll" from calender stack at National Container Corp., Jacksonville, Fla. Operator riding carriage of huge lathe is J. C. "Doc" Blankenship. (He received \$100 from National Container for suggesting a time saving method of truing the roll grinder stone.) "King roll" is the largest roll in the calender stack, weighing 35 tons, is 34 inches in diameter and has a 228-inch face.



### Seedlings in South

Southern states' nurseries are currently producing 95 million pine variety seedlings with a promise that the next season's work will result in total production of over 127 million seedlings. Current pine variety production has been estimated as follows: slash pine, 52,653,000; loblolly pine, 31,354,000; shortleaf pine, 6,110,000; longleaf pine 4,392,000; spruce pine, 581,000, and white pine, 50,000. The demand in each state exceeds the supply.

### Seedlings for Employees

Crown Zellerbach Corp. has distributed 71,000 seedling Port Orford cedar trees to employees of the organization. Printed forms were made available to employees by the forestry department of the company and those persons desiring the trees could specify the number they desired, up to 100 per applicant. Employees receiving the trees stated they would use them for planting hedges, wood lots or as ornamentals.

According to E. P. Stamm, logging manager, this distribution of seedlings is aimed

at stimulating Keep Oregon and Washington Green programs; and interest in sound forest management practices.

### Ontario Paper Co. Acquires Forest Land

The most extensive timber farming project on privately owned lands in eastern Canada is in prospect for Manitoulin Island on Lake Huron, Ontario.

Ontario Paper Co. announces that it has acquired 78,000 acres of forest land on this, the world's largest fresh-water island, and its sister islands of Great Cloche and Cockburn and on them will conduct a long-term wood-farming project.

Research at the company's laboratories at Thorold, Ont., has developed a commercially successful method of processing green poplar, most abundant tree in the area, into pulp, and work is to be started immediately with a cut estimated at 25,000 cords, which is expected to provide approximately \$250,000 for Manitoulin residents.

Some spruce, balsam and jackpine will also be harvested, but it will be several decades before large quantities of those species will be available.

### No. 8 Machine Being Installed At Powell River

Major construction project currently under way at Powell River Co.'s mill at Powell River, B. C., is in connection with installation of the new No. 8 paper machine, which is expected to go into production during the coming summer.

This is the only new newsprint machine being installed this year in the Canadian paper industry, and for that reason considerable interest in it has been aroused. It will have 62 dryers and Fourdrinier, Harland sectional drive and Powell River-designed totally-enclosed stock inlet.

According to P. R. Sandwell, chief engineer, the new paper machine will be installed in a building partially completed in 1930 when machine No. 7 was acquired. It will be of the same width (226 inches wide) as the 1930 machine. It will be capable of speeds up to 2000 f.p.m., 600 f.p.m. faster than the older machine.

### Nekoosa Installs New Cutter and Trimmer

Streamlining production facilities in the Port Edwards, Wis., finishing department of Nekoosa-Edwards Paper Co., a Hamlet paper cutter and a Seybold precision trimmer have been installed. Increased conversion of fine papers to sheets is made possible through the operation of the new machinery.

A Maxson overlapping delivery is incorporated in the Hamlet paper cutter along with a Reliance fully electrified drive making possible very high speed operation. The cutter will accommodate rolls up to 114 inches in width. In order to make room for the new cutter, No. 1 was dismantled and No. 2 was moved to a position along the east wall of the finishing department where it is used for sheeting small size rolls.

**KALAMAZOO PAPER CO.**, Kalamazoo, Mich., recently installed two new Jones jordsans, one Majestic size, and the other, Imperial size. They are both equipped with "Nowave" design phosphor bronze plug and shell filling and with SKF Bearings. The jordsans are direct driven, the Majestic with a 300 HP motor and the Imperial with a 250 HP motor.

### Bepco Canada Supplies Pulp Machine Drive

In the list of machinery for the Bloedel, Stewart & Welch pulp mill at Port Alberni, B. C., published in the February issue of **PULP & PAPER**, it was reported that Harland Engineering Co. was the manufacturer of the drive for the drying machine.

Actually, this sectional electric drive was supplied by Bepco Canada Ltd., 4018 St. Catherine Street, Montreal, which is the supplier of the Harland drive in Canada and in Newfoundland. The drive motors and differential intersection regulators are obtained from the Harland Engineering Co. of Great Britain. All other parts are produced in Canada, the main switchboard and special control equipment being manufactured in the Bepco works at Montreal.

# Personals

## NORTHEAST

**DR. DONALD T. JACKSON** has been appointed director of the Hammermill Paper Co. Laboratories at Erie, Pa., succeeding the late Dr. Bjarne Johnsen.

The new director of the Hammermill Laboratories joined the organization in 1933 as a research chemist. He has been assistant director of the Laboratories since 1945.

Dr. Jackson is a graduate of Montana State College and has a Ph.D. degree from the University of Pittsburgh. Prior to joining the Hammermill organization, he taught chemistry at the University of Pittsburgh.

**DR. BJARNE JOHNSEN**, aged 63, for the past 30 years director of the Hammermill Paper Co. laboratories, died suddenly of a heart attack Jan. 9. He was an internationally-known scientist when he went to Erie, Pa. A native of Stavanger, Norway, Dr. Johnsen was educated in German and Swiss schools.

**PHILIP L. HOVEY**, a member of Oxford Paper Co.'s sales department and advertising manager, has been transferred to the manufacturing department. Mr. Hovey assumed duties as an assistant to Donald Appleton, who is in charge of manufacturing, on March 1. Mr. Hovey has been with Oxford for 10 years and worked in the mills at Rumford, Maine, and West Carrollton, Ohio, after graduating from Sheffield Scientific School of Yale.

**MORRIS P. HAWLEY**, Colton, New York, uses a helicopter in surveying his timber land—25,000 acres near Tupper Lake—and reports that now the operation requires three hours instead of the six weeks it used to take on snow shoes. During this year's survey preparatory to logging operations he spotted his foreman in the woods and dropped straight down for a chat.

**CECIL F. DAWSON** has been elected president of Dixie Cup Co. He is chairman of the executive committee and was formerly vice president. C. L. Van Schaick has been elected executive vice president and a director of the company.

**LLOYD R. COOPER** has been named director of research for Heppenstall Co., Pittsburgh. Mr. Cooper received the degree of B.S. in chemical engineering from Lehigh University in 1935.

**JAMES H. BLUNDEN** has been appointed sales manager of the Lowman Folding Box Division of United Board and Carton Corp. Mr. Blunden will be in charge of sales in the Syracuse, N.Y., territory. Mr. Blunden has been with United's Syracuse plant since 1927.



**G. LAMONT BIDWELL** (left), promoted from Supt. to Manager of the Milford, N. J., mill of Riegel Paper Corp., where a new Fourdrinier is being installed to increase capacity 20 per cent. **R. L. KERRIDGE** (right), former Assistant to Vice Pres. F. I. Jacoby, who retired Feb. 6, has become Manager of mills at Warren Glen, Hughesville and Riegelsville, N. J. Since Mr. Jacoby's retirement, these two Managers will report to Exec. Vice Pres. Walker Hamilton.

**WILLIAM T. BRUST**, vice president and assistant treasurer of Hammermill Paper Co., retired from active service with Hammermill on February 1. His retirement was at his own request.

Mr. Brust joined the Hammermill organization in 1922. He became a member of the company's board of directors in 1926 and a member of the executive committee in 1927.

The retiring Hammermill executive is a director and vice president of Hammermill Canadian, Ltd., Port Arthur, Ont.; a director and treasurer of Grays Harbor Pulp & Paper Co., Hoquiam, Wash.; a director of Robeson Process Co., New York; a director and president of the Temperance River Co., Grand Marais, Minn.

During World War II, he was a member of the Pulpwood Industry Advisory Committee, a division of the W.P.B. He also served upon the Eastern Pulpwood Industry Advisory Committee and the Canadian Pulpwood Industry Advisory Committee.

Mr. Brust is also a director of the American Pulpwood Association and of the Committee on Imports for the American pulpwood industry. He will continue to be a member of Hammermill's Board of Directors, and to serve the company on a part-time basis for the coming year.

**HERBERT R. SODERSTON** has been promoted to the newly created post of general manager of woods operations for Brown Co. of Berlin, N. H., and Brown Corporation of Canada. He has been chief logging engineer and resident woods manager. C. S. (Pat) Herr, who has been serving as assistant resident woods manager, has been promoted to Mr. Soderston's former spot.

**ROBERT W. LEROY** has been elected president of Paper Corporation of America, New York City, following the retirement of I. Lawrence Lesavoy from that office. Mr. LeRoy was formerly executive vice-president of the company. Robert C. Clark, former sales manager, has been named vice-president, and Joseph Dannenberg is treasurer, succeeding Murray Landy. David Getz has been elected secretary.

**NATHANIEL CORBIN**, one of the biggest men in the paper industry (6'5" tall), has recently joined the sales staff of Shapiro Paper Corp., 450 Seventh Ave., New York City.

**KENNETH V. COOMBES** has been appointed general purchasing agent for Brown Company, New York, assuming his new duties February 9th. He has been engaged in industrial purchasing for 20 years and came to the pulp and paper organization from his post as manager of purchasing for the general chemical division of Allied Chemical and Dye Corp.

**HARLOWE HARDINGE**, president of the Hardinge Co., Inc., of York, Pa.—manufacturer of equipment for paper and other industries—has been elected a director of the Pennsylvania State Chamber of Commerce.

**MR. AND MRS. WILLIAM VERSFELT**, vice president and treasurer of the St. Regis Paper Co., New York, sailed recently for Rio de Janeiro on the *Uruguay*.

**ERLE M. BILLINGS** has retired from Eastman Kodak Co., Rochester, N. Y., after 30 years with the organization. He was advisor in the business and technical personnel department and was widely known in the chemical profession and in the American Chemical Society.

**JOHN P. EDWARDS**, graduate of the University of Minnesota, has recently been promoted to the sales development department of Hooker Electrochemical Co., Niagara Falls, N.Y. He will handle technical correspondence with respect to the use and application of Hooker chemicals.

**O. B. WILSON** has been named industrial manager for the eastern sales region of Brown Instrument division of Minneapolis-Honeywell Regulator Co., it is announced by L. M. Morley, vice president of Honeywell and its Brown division.

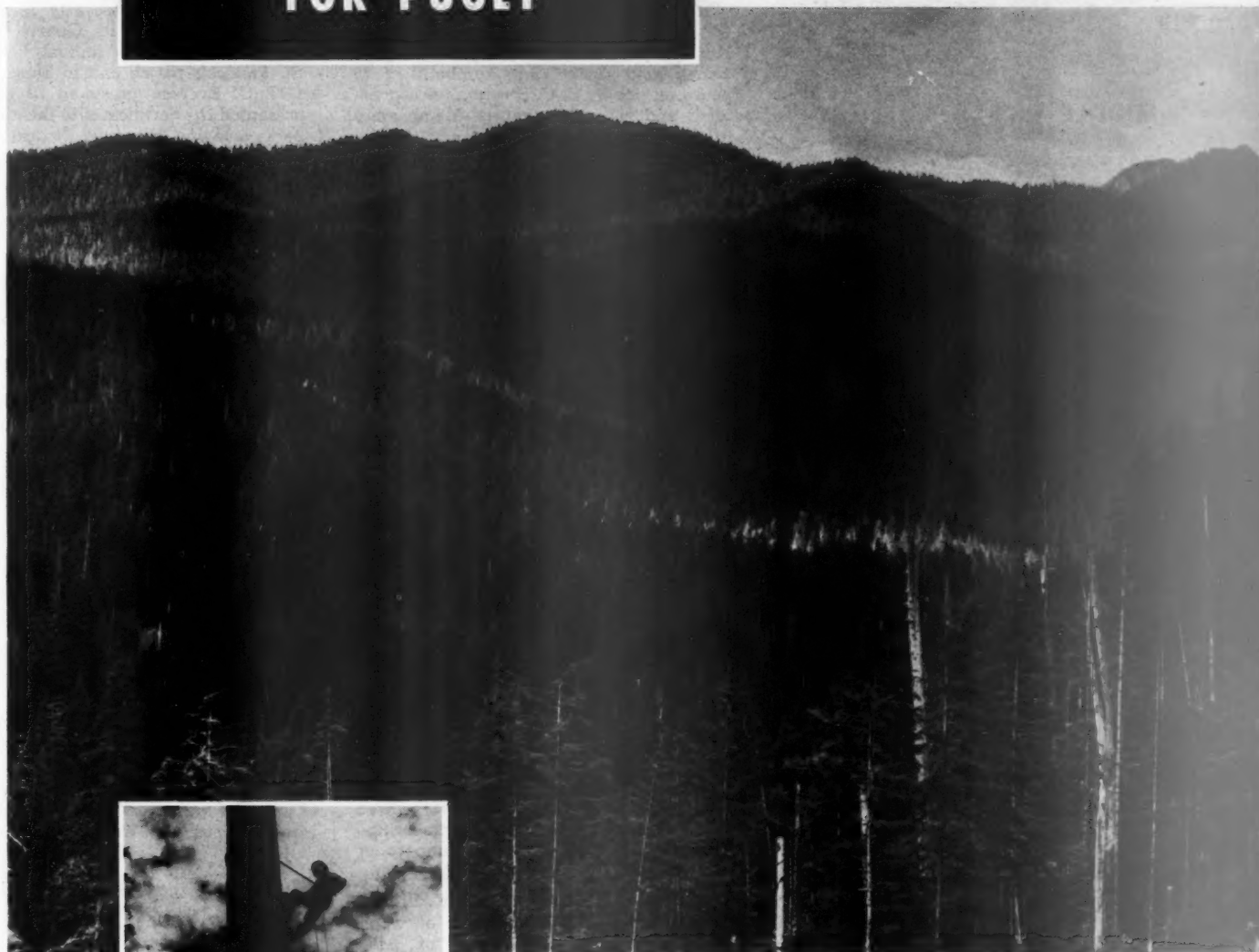
**CHARLES R. A. HARTIG**, executive vice president of Gaillet and Hartig, Inc., New York, recently returned from a trip through Belgium, Holland, France, Switzerland and Italy. He said that the European economic situation is deeply affected by the devaluation of the French currency. The success of the plan, said he, might constitute a valuable step toward the re-establishment of free enterprise—but a failure could lead to serious complications.

**PAUL H. TRAVIS**, president of Rochester Paper Company, Rochester, N. Y., and **J. C. MARVIN**, vice president of Bulkley, Dunton & Co., New York, have jointly announced that the latter firm will be exclusive distributors of Rochester Indian Blottings in the New York metropolitan and New Haven areas. Also, Bulkley, Dunton Paper Co., S. A., paper export branch, will handle the Rochester blottings exclusively for export. Daily capacity of these papers is about 30,000 pounds at the Rochester mill.



# TIMBER-R-R!

## FOR PUGET



The high rigger starts his climb to top a spar tree.

VIRGIN TIMBER IN THE DEER CREEK VALLEY NEAR BELLINGHAM — PART OF THE COMPANY'S EXTENSIVE RESERVES LOCATED IN THE STATE OF WASHINGTON AND BRITISH COLUMBIA.

*Puget Pulp's* extensive timber holdings in Washington and British Columbia . . . plus effective conservation practices . . . insure an ample supply of logs for the digesters and pulp machines of Puget's modern plant.

AMERICA'S LARGEST  
PRODUCER OF UNBLEACHED  
SULPHITE PULP

CAPACITY:  
125,000 TONS ANNUALLY

# PUGET SOUND PULP & TIMBER COMPANY

BELLINGHAM • WASH.





## MIDDLE WEST

**NATHAN BERGSTROM**, vice president of Bergstrom Paper Co., was recently elected first vice president of the 86-year old First National Bank of Neenah, Wis. Cola Parker, Charles H. Sage, Ernst Mahler and John Kimberly-Clark were elected directors. Mr. Bergstrom's father, John N., retired as director because of poor health.

**DAN J. COURTNEY**, superintendent of the resin impregnating plant, Kimberly-Clark Corp., Kimberly, Wis., was killed in the takeoff crash of a Delta Airlines plane in Chicago airport March 10, which made headlines all over the country. Mr. Courtney was bound for Miami to join his wife.

**HENRY MILETTE**, beater engineer at M & O Paper Co., International Falls, Minn., died recently. He was 57.

**JOHN WESTING**, 68, founder of Westing Paper Co., died recently in Grand Rapids, Mich.

**ARTHUR MAY**, head of engineering department; **E. H. JENNINGS**, vice president; **ART SCHMALZ**, assistant general superintendent; **E. R. SULLIVAN**, treasurer; **C. L. DOSTAL** and **RUDY VOGT**, both of sales, and all of Thilmany Pulp & Paper Co., all were honor guests at a "Bosses Night" at Kaukauna, Wis., Junior Chamber of Commerce.

**WILLIAM HOOLIHAN** received an engraved wrist watch as an award for 40 years service from President Karl E. Stansbury of Thilmany Pulp & Paper Co.

**C. HARVEY ANDERSON** was recently transferred from Chicago to the Wisconsin and Minnesota territory for Penn Salt Mfg. Co.

**CHARLES A. LEE**, graduate of U. of Wyoming, and formerly in Navy hydro-mechanics work, has joined the staff of the Research and Development Laboratories of Kimberly-Clark Corp., Neenah, Wis., according to an announcement by H. A. Rothchild, technical director.

**DR. IRWIN A. PEARL**, formerly of the University of Washington and now of the Institute of Paper Chemistry, Appleton, Wis., told about this industry's progress in finding useful by-products at a Chemical Society meeting in Milwaukee.

**H. G. WALES** has been promoted to vice president in charge of sales of Dunn Sulphite Paper Co., Port Huron, Mich., President Theo. W. Dunn announced. Mr. Wales' former position was that of mill manager and prior to that, he was technical director. He joined our company in this position in 1929.

## M. & O. Paper Co. Gives Gold Rings

On the 25th anniversary of the opening of Minnesota and Ontario Paper Co.'s Kenora, Ont., mill, 20 employees were presented gold signet rings symbolic of 25 years service by S. C. Stratton, vice president and general manager. Membership in this quarter century organization for all M. & O. mills now totals 461.

John N. Oas, buyer for the National Pole and Treating Division, is the oldest in service, his record of employment dates back to 1902. The rings range from a size 6 for R. D. Main, secretary-treasurer, made to order to wear on his little finger, to a massive size 15½ worn by John Fichuk, blacksmith at the Fort Frances mill.

**CARL H. KING** has been appointed supervisor of employee training for the Minnesota and Ontario Paper Co., according to announcement by G. N. Williams, director of industrial relations.

**ROBERT F. NELSON**, assistant to President Folke Becker and director of sales of Rhineland Paper Co., has been accorded the title of executive vice president by directors. **GUNNAR K. TALLGREN**, recently of Mantla, Finland, has assumed the position of assistant sulfite superintendent, and **FRED SCHUEPPERT** is heading up the newly reorganized traffic department. Mr. Schueppert comes from the Fox River Valley where he was employed by Marathon and Kimberly-Clark.

**ROBERT BRINGMAN** has rejoined Nekoosa-Edwards Paper Co., Port Edwards, Wisconsin, as chemist, after serving three years in the AAF as a navigator. Bringman is a graduate of the University of Wisconsin.

**C. S. LEAF**, assistant to Robert K. Prince, who recently became manager of wood processing machinery section of Allis Chalmers, was a guest speaker at a recent meeting of the very active Kimberly-Clark Corp. Engineers Club. K-C has one of the biggest engineering staffs in the industry, with upwards of 170 men sometimes at work in its big modern drafting room.

**MERTON FOGERTY**, who is very active in civic affairs of Kalamazoo as well as being prominent for many years in the power developments of the Kalamazoo Valley industries, moved across the town rather quietly some months ago, to become power plant engineer for the big Sutherland Paper Co. He had been a vice president and power engineer at the old Bryant Paper Co. bought by St. Regis, and before that he was at Michigan Paper Co. in nearby Plainwell.

**WILLIAM P. TAUGER**, an engineer who was well known in Kaukauna, Wis., moved to Milwaukee to be designing engineer for A. O. Smith Corp. after World War I, died recently in Milwaukee.

**JOSEPH FAGOT**, of Marathon Corp., Menasha, Wis., was tour guide for Neenah, Wis., high school teachers when they recently made a tour of the Marathon paper mill and finishing plant in Menasha.

## Marathon Inducts 17 Into Veterans' Club

Marathon Corp. recently inducted 17 new members into its Quarter Century club at the group's annual banquet at St. Patrick's parish hall in Menasha, Wis.

D. C. Everest, president of the corp., presented the certificates to the new members, bringing the total to 358 persons. Dr. Clark Kuebler, president of Ripon college, and Lloyd Larson, sports editor of a Milwaukee newspaper, were speakers and the Marathon choral club entertained.

## Improvements Continue At Hawthorne Paper Co.

A program of improvements calling for expenditure of around \$700,000 is continuing at Hawthorne Paper Co., Kalamazoo, Mich.

At a recent meeting, George H. Gerpheide was re-elected president and other officers re-elected were C. Hubbard Kleinstuck, vice president and assistant treasurer; M. H. Stetson, vice president and sales manager; C. J. Monroe, treasurer; and C. M. Chase, secretary. Directors include the above and A. B. Connable, Sr.; George T. Jubb and H. L. North.

**HERCULES POWDER CO.'S** sales to the paper industry reached a new high in 1947, a year in which the paper industry as a whole also made new records in production.

**FOX PAPER CO.**, Lockland, Ohio, has recently purchased three new E. D. Jones Majestic Jordans; two of which are already in operation. All are equipped with Type-W Plugs, anti-friction bearings, and stainless steel NOWAVE plug and shell fillings.

## Pennsalt Fiscal Year Becomes Calendar Year

Shareholders of the Pennsylvania Salt Manufacturing Co. voted at the 97th annual meeting to change the present fiscal year—July 1 to June 30—to correspond with the calendar year, beginning January 1, 1948.

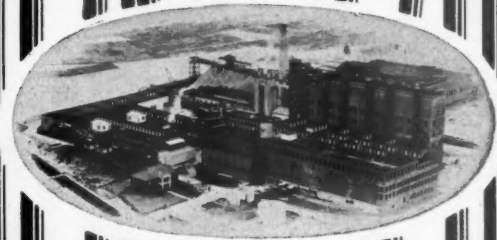
Leonard T. Beals, president, explained to shareholders that the new fiscal year simplifies accounting since it corresponds with the company's tax year, which is the calendar year.

At the same meeting, Leonard T. Beale, Otho E. Lane and Alexander J. Cassatt were re-elected directors for terms expiring in 1950, and Charles B. Grace was re-elected director for a term expiring in 1948.

## Shortage in Dyes

Calco Chemical Division of American Cyanamid Co. has notified customers that because of continued shortages of certain intermediates and the large increase in consumption of dyes, it fears that certain items which have been short in recent months will continue to be short at least during part of 1948. Such shortages as there may be, it said, will be largely confined to particular dyes and special types, due principally to scarcities of special intermediates.

# SOUNDVIEW



*High Grade*

**BLEACHED  
SULPHITE PULP**

**SOUNDVIEW PULP COMPANY  
EVERETT WASHINGTON**



APRIL, 1948

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# Personals

## PACIFIC COAST

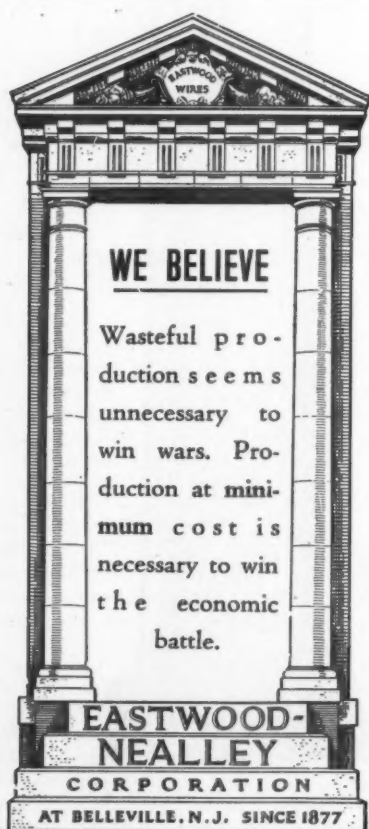
**ALONZO HATCH**, chief engineer of Container Corp. of America's board mill in Los Angeles, is the new president of Papermakers and Associates of Southern California.

**KARL A. CLAUSON**, secretary-treasurer of the Association of Pulp Consumers, Inc., 385 Madison Ave., New York, made a trip to the Pacific Coast in March, looking into possible new sources of pulp supply for the member mills of his association.

**JOHN ROSLUND**, of Asten-Hill Manufacturing Co., Philadelphia, is making a tour of the Pacific Coast pulp and paper mills.

**GERALD GREEN**, chemist for the Fibre-board Products Inc., of Port Angeles, is father of a husky young son, born to Mrs. Green Feb. 10. Little Michael is the first child in the Green household.

**F. J. "BILL" HERB**, president and manager of the Pacific Coast Paper Mills of Bellingham, was chairman of the membership drive of the Bellingham Chamber of Commerce. The success of his chairmanship was shown by the sharp rise in the number of Bellingham and Whatcom County people added to the roster of the Bellingham Chamber.



### IN THE COAST INDUSTRY NEWS—

Top—**JALMAR E. HEISKANEN** (left), who has represented Pulp Bleaching Co., of Seattle, in Finland for many years and is returning to Finland soon, with **GEORGE RUSSELL**, Vice President of the West Tacoma (Wash.) Newsprint Co., which started up this past year, and **Bus. Mgr. of the Tacoma News-Tribune**, one of the group of newspapers which own the mill. Below—**MILTON J. MAGUIRE** (left), Res. Mgr. of Portland, Ore., plant of Hercules Powder Co., escorts **R. F. NEUMANN**, Manager of the Technical Service of Paper Makers Chemical Dept., Hercules Powder Co., Wilmington, Del., on Pacific Coast tour.

### Alan Dunham Moves

**Alan C. Dunham**, Pacific Coast representative of Lockport Felt Co. and of other mill supply companies, moved his headquarters on Feb. 1 from the Mayer Bldg. in Portland, Ore., to 1201 Equitable Building, Portland 4, Ore.

Associated with Mr. Dunham, as was announced in the January issue of **PULP & PAPER** is **Richard S. Buckley**, former superintendent at Fernstrom Paper Mills of Pomona, Calif. Mr. Buckley also will be in the new Portland office.

**CONRAD THIELE** is superintendent of U. S. Gypsum Co., Los Angeles, succeeding **Bill Hartford**, who has gone to Ohio Boxboard Co., Rittman, Ohio.

**WILLIAM C. BIRDSEYE**, who was chief engineer for the past year for the entire Pioneer-Flintkote operations in Los Angeles, is now manager of the board mill. Because of the great expansion at Flintkote, there has been a new division of responsibilities, and **WILLIAM A. KINNEY**, long a leader in paper circles in Southern California, now has been made manufacturing manager of the building materials division—roofing, emulsions and tile. He was former production manager.

**GLEN PHILLIPS** continues as board mill superintendent with **FRANK DILLEY** as assistant.

**VICTOR HANER**, plant engineer of the Puget Sound Pulp recently headed the speakers' committee for the March of Dimes campaign in Bellingham and Whatcom County. Vic is active in the Toastmasters' Club in Bellingham and is serving as prexy during 1948.

### Nichols Heads Multiwall Bag Sales for Crown Z

With the new multiwall bag plant at Port Townsend, Wash., scheduled for production late this year Crown Zellerbach is setting up a new department for merchandising this product.

**H. O. Nichols**, manager of Crown Zellerbach's eastern division in New York City, will head the new multiwall bag sales department, at 343 Sansome St., San Francisco. Mr. Nichols was recently elected president of the Kraft Paper Association. He has been with Crown Zellerbach for 18 years. **J. W. Kincaid**, in charge of specialty sales for Crown Willamette Division in San Francisco, has been promoted to assistant sales manager to Mr. Nichols. **Wayne Brown** replaces Mr. Nichols as manager of eastern division.

### Longview Fibre Promotions

**W. J. Shelton** has been promoted to position of superintendent of pulp and paper manufacture at Longview Fibre Co., Longview, Wash. He formerly was pulp mill superintendent for the organization, this position now held by **W. H. Wenzel**, former assistant pulp mill superintendent. **R. E. Strommer**, who has until recently been tour foreman in the pulp mill has been promoted to position of assistant pulp mill superintendent, and **Russell Graff** is now tour foreman in the pulp mill.

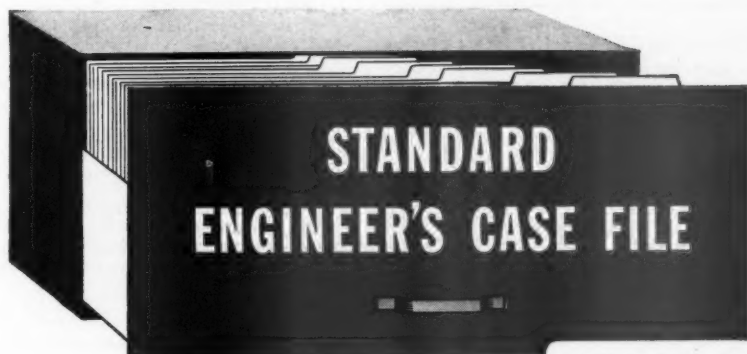
**JAMES C. MCGREGOR**, accountant for Puget Sound Pulp and Timber Co., died early Mar. 2 after crashing into a freight train near mill property in Bellingham. Apparently, the veteran employe failed to see the train in the dark, driving his car into a gondola with such force that he was thrown from the car. Mr. McGregor is survived by his wife, Mae, assistant timekeeper of the mill, and two daughters, Maxine, and Jean, a missionary in Poona, India. A third daughter, Mrs. Donna Payne, of Everett, died only three weeks before her father.

**GORDON HART**, chief electrician at Everett Pulp & Paper Co. and brother-in-law of Washington State's governor, **Mon C. Wallgren**, was involved in a tragic fishing episode when one of his companions on a fishing expedition in Puget Sound, **George Gove**, of Walton Lumber Co., was drowned. Mr. Hart had remained aboard a cruiser when Gove and another fisherman went out in a dinghy and were upset, the companion being saved.

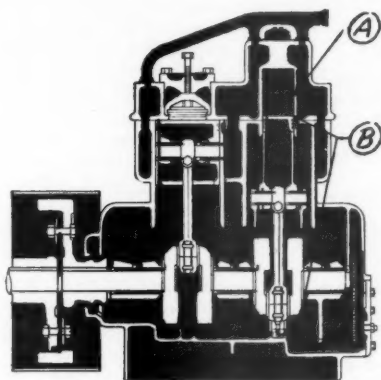
**SIDNEY COLLIER**, assistant superintendent of the Puget Sound Pulp and Timber Co., was recently elected vice-president of the Bellingham Forum, Incorporated, an organization bringing nationally known speakers to Northwestern Washington, with an active membership of four hundred.

**GEORGE W. CHARTERS**, assistant resident manager, Crown Zellerbach Corp., Camas, Wash., is convalescing satisfactorily following a major operation in late January.





#### CASE 1045--MINIMIZING OIL OXIDATION AND DEPOSIT TROUBLE IN AIR COMPRESSORS.



TWO-STAGE, 2 CYLINDER AIR COMPRESSOR

In air compressors of all types and sizes, heat-resistant Calol Multi-Service Oil materially reduced deposits on discharge valves, cylinders, bearings and in crankcases. Comes in six viscosity grades: 45X, approximately SAE 10; 50X, SAE 20 medium; 55X, SAE 20 heavy; 65X, SAE 30; 75X, SAE 40; 85X, SAE 50.

A. Detergent compound keeps parts cleaned of gum and lacquer and prevents ring sticking . . . provides constant lubrication on hot spots.

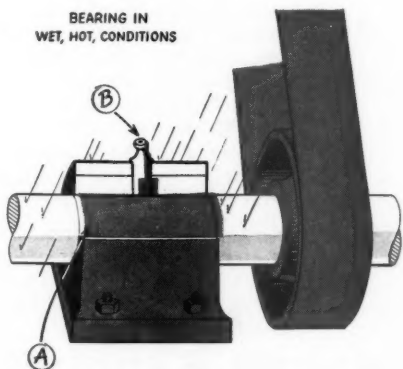
B. Oxidation inhibitor prevents formation of sludge and other deposits caused by air, extreme heat, moisture, dust and other contaminants.

Has high metal-adherent quality - maintains film of oil in idle machines which prevents starting wear and protects against rusting.

Calol Multi-Service Oil will correct gum and lacquer problems in many machines - in air compressors, Diesel and natural gas engines, enclosed gears, bearings.

#### CASE 1070--LUBRICATING GREASE BEARINGS IN HEAT AND MOISTURE.

BEARING IN WET, HOT, CONDITIONS



In a heavy water spray and high ambient temperatures, Calol W. P. Grease maintained good bearing lubrication for full lubrication periods. Very satisfactory on wicket gates of hydro-electric turbines, coal loader arms, hot bed and conveyor bearings in water conditions, cannery and bottle-washing equipment.

A. Extremely adherent to metal surfaces . . . maintains tough lubricating film.

Calol W. P. Grease will not melt or dissolve in boiling water. Resists all heat in a peculiar manner - gradually softens over long range of temperatures instead of melting suddenly as most greases do.

B. Medium-bodied -- may be applied by grease gun or cup. Good pumpability in low temperatures.

Calol W. P. Grease contains no talc, resin, wax or other fillers.

Trademarks, "Calol," "RPM," Reg. U. S. Pat. Off.

Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert service—make your maintenance job easier. Call your local Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California.



FOR EVERY NEED A **STANDARD OF CALIFORNIA** JOB-PROVED PRODUCT

APRIL, 1948

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## LITERATURE AVAILABLE TO YOU

In this section PULP & PAPER INDUSTRY reviews recent literature of value published by the pulp and paper industry equipment and supply companies.

Write to PULP & PAPER INDUSTRY, 370 Lexington Ave., New York (17), or 71 Columbia St., Seattle (4), Wash., if you are interested in obtaining free copies of these booklets, catalogs, bulletins or folders.

### New Calco Technical Bulletin

The new Calco Technical Bulletin Number 801, "Determination of the Solubility of Dyes," describes a method which can be used to obtain the solubility of commercial dyes. The solubility of a large number of Calco's acid and direct dyes at 60°C. is listed.

"INSTRUMENTATION FOR THE PAPER INDUSTRY," available from The Brown Instrument Co., Philadelphia 44, Pa., a division of Minneapolis-Honeywell Regulator Co., illustrates some of the many instrument control systems in use today with descriptions of 26 typical process control instrumentations applicable to pulp and paper.

A NEW BULLETIN number EDJ-1011 describing and illustrating the Jones High-Speed Refiner is available on request from E. D. Jones & Sons Co., Pittsfield, Mass. The contents describe the uses and results obtained from typical applications of the Refiner.

### Am. Cyanamid Product

A leaflet with data on "Sodium Phospho Aluminate" is available on applying to the Heavy Chemicals Department, American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

### New Leaflet

The American Cyanamid Co., 30 Rockefeller Plaza, New York 20, recently announced the issuance of a new leaflet, "Sodium Phospho Aluminate." Copies will be mailed upon request to their Synthetic Organic Chemicals Dept.

### Retirement Plan at Rhinelander Paper Co.

A retirement plan now covers all salaried employees of the Rhinelander Paper Co., the entire cost of which is carried by the company. Past service costs are being funded over a 25-year period, during which time the annual payment for the number of employees presently affected amounts to \$55,000. Employees are eligible after 15 years' employment.

F. C. HUYCK & SONS, in its annual report, combines operations of the Rensselaer, N. Y., company and its wholly-owned subsidiary, Kenwood Mills, Ltd., Arnprior, Canada. Francis H. Eldridge, president, describes 1947 as the year of highest dollar volume of sales in the history of the company, with total sales of \$11,754,270. Net earnings were \$1,042,237, with \$349,741 paid in dividends and \$692,496 retained to finance building and other needs.

MODERN MACHINES CO., Portland, Ore., has issued a new booklet "Controlled Flow" (Booklet MM200) which illustrates the increasing variety of uses and types of applications that are being made with the Modern Stock-Maker for continuous beating and refining.

GENERAL DYESTUFF CORP., 435 Hudson St., New York 14, has released a new circular, G-506, describing and giving the use of their product—Paper Red APX.

WANTED: Graduate mechanical engineer with experience in pulp, paper mill, and woodroom operations. Position would involve mill maintenance as well as new construction. Give age, full information on past experience, and salary expected, in first letter. Reply Box 6, Pulp & Paper, 71 Columbia St., Seattle 4, Wash.

### USED EQUIPMENT FOR SALE

- 8 42" dia. x 120" face decker cylinder moulds with 12 x 64 mesh Type 316 stainless steel face wires, bronze spiders, stainless rods and No. 12 gauge stainless winding wire. Both ends open and with shaft extension each end.
- 3 42" dia x 120" face decker cylinder moulds as above except with bronze rods.
- 1 42" dia. x 120" face decker cylinder mould as above with stainless bars and less face wire.
- 5 36" dia. x 72" face decker cylinder moulds with 12 x 64 mesh Type 316 stainless face wires and stainless winding wire. One end closed.
- 12 20" dia. x 123" face rubber covered couch rolls, 2 3/16" dia. shaft extension each end.
- 5 24" dia. x 72" face rubber covered couch rolls, 2 3/16" dia. shaft extension each end.

SOUNDVIEW PULP COMPANY  
EVERETT, WASH.



● Whether you're planning to build or remodel, you'll be wise to include "adequate wiring" in your initial plans. The cost is a small part of your total budget... the benefits unlimited.

PUGET SOUND  
POWER & LIGHT CO.  
FRANK McLAUGHLIN, President

### MACHINERY FOR SALE

Prescott Saw Carriage, 54" Right Hand; Electrically driven; length 23 feet; overall width 5' 8 1/2"; width including running board 8' 10 1/2"; complete with ten 50 cycle, 550 volt 3 phase motors. This carriage was built in 1942 and has been completely refitted and overhauled. Inspection arranged upon applying to Powell River Co. Ltd., 1120 Standard Building, Vancouver, B. C.

WANTED—Graduate Mechanical Engineer—experienced in Paper Mill Work—age about 40—to take charge of Engineering Office. Location, Wisconsin. Give full data and required salary in first letter. Write c/o Box 3, Pulp & Paper, 71 Columbia St., Seattle 4, Wash.

### FOR SALE

Available for Immediate Shipment

1 Used 110" left hand chipper with multiple manila rope drive and 200 HP .80 PF 600 RPM synchronous motor. 21" wide square type spout, cast steel 4-knife disc with renewable face plates and knife carriers. Fan blades on disc for overhead discharge. Tinker bearing arbor. Motor 3-bearing type with sliding base and including direct connected exciter. Current characteristics 2200V 3-phase 60 cycles. Rope drive ratio for 200 RPM disc speed. Further information and outline dimension drawings will be furnished immediately upon request.

Soundview Pulp Company, Everett, Wash.

### Zellerbach Personnel News

Ernest F. Beine, for many years connected with the Zellerbach Paper Co., and lately sales manager, Oakland division, has been appointed manager of that division.

J. C. Ady, "Clem," as he is known to his host of friends, formerly manager of the division, and who has been with the company for the past 40 years, has retired as manager, but continues with the company in an advisory capacity.

Mr. Ady went to work for the Zellerbach Paper Company as a salesman in the Oakland division in 1908, and after five years succeeded to the manager's position—a job that he has held ever since. He has been a member of the Oakland Rotary Club since 1913, is a member of the Claremont County Club, the Athenian-Nile Club, and an honorary member of the California Public Buyers' Assn. He is also a charter member of the Athens Athletic Club, and is one of the original directors in the formation of the Oakland Boy Scouts.

### Experienced

### MANAGER or ASSISTANT MGR. WANTED

for large multiple-machine paper board mill located on Pacific Coast. Grades of board run are container liner and corrugating medium, plain chip and folding grades. Age 30-42. Send full particulars and photo.

BOX No. 5

## Don Felthous Named Longview Plant Engineer

Don G. Felthous, who has had a wide experience in Pacific Coast engineering and was formerly acting plant engineer, becomes the plant engineer of the Longview sulfite and sulfate mills of Weyerhaeuser Timber Co. as of April 1. He succeeds Lowell Edwards, who resigned in order to devote a substantial portion of his time to consulting and development engineering for Thompson Products, Inc., Cleveland, according to announcement by R. E. Baker, manager of the Longview pulp mills.

Mr. Edwards has been an engineer for the Longview mill since 1937. He was actively engaged in developing the hydraulic whole log barker. From 1942 to 1945 he was on leave, with the Western Gear Works and Thompson Products, and was concerned primarily with the practical development of an aircraft fuel pump on which he owns patents. Mr. Edwards will maintain his residence in Longview and will add to his present facilities for development engineering at his own laboratory. Work will be carried on there for Thompson Products, but, in the future, he hopes to devote more time to development projects which apply to the pulp and timber industries.

Mr. Felthous has been with the Weyerhaeuser Pulp Division since 1934. He was acting plant engineer during Mr. Edwards' leave of absence. Since Mr. Edwards' return, Mr. Felthous has been assistant plant engineer and, more recently, assistant construction engineer, assisting with design and construction of the MgO and sulfate pulp mill. He will continue to carry those responsibilities until the new mill is completed.

Mr. Felthous is a mechanical engineering graduate from the University of Minnesota. Prior to coming to Weyerhaeuser, he was associated with the Insulite Company, D-N Corp., Ken Hall of Portland, Ore., and Huntington Rubber Mills. His experience at Weyerhaeuser also includes periods spent as machine room foreman, shift superintendent, and development work with the MgO pilot plant.

RALPH W. GOTSCHALL, sales manager, Johnson Corp., Three Rivers, Mich., was a Pacific Coast visitor during January. While in the Northwest he visited pulp and paper mills in company with Bill Donaldson, representative of the Arthur Forsythe Co. of Seattle, distributors of Johnson products in that area.

Mr. Gotschall visited the pulp and paper plants in the San Francisco Bay area with Millard Hickman, Hickman Engineering Co., northern California distributors for Johnson; and then in southern California made a tour of pulp and paper plants with Guy L. Warden, Guy L. Warden Co., distributor of the company's products in that area.

Y. F. HARDCASTLE, Penn. Salt Mfg. Co. vice president in charge of manufacturing, has been elected a board member, it is announced by Leonard T. Beale, company president. Mr. Hardcastle had been vice president since 1927.

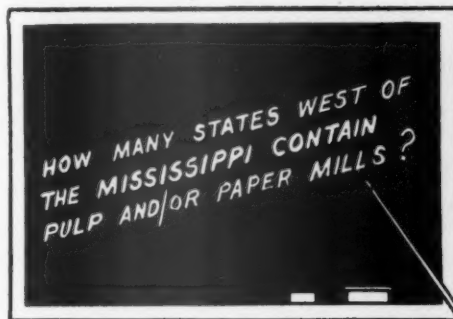
## Bristol Publishes New General Catalog in French

A new general catalog entitled, "Specification Index for Bristol Instruments", has just been published in the French language by The Bristol Company, Waterbury 91, Conn.

DIRECTORS OF HAWLEY PULP & PAPER CO., Oregon City, Ore., declared a dividend of \$2.00 a share on common stock of the company, payable Dec. 16, according to John H. Smith, president. This is an increase of 80c per share over the 1946 dividend which was \$1.20 per share.

CRAWFORD H. GREENEWALT, who at 45 became the tenth president of E. I. du Pont de Nemours & Co. in the organization's 146-year history, is an MIT graduate and worked first as control chemist in the Philadelphia works. After two years he was brought to Wilmington, and assigned to the Du Pont experimental station. He was later a research supervisor, chemical director of The Grasselli Chemicals department, and during the war was responsible for liaison between Du Pont and University of Chicago for the atomic energy program, and recently he was assistant manager of the pigments department.

## What do you know about Paper?



### DRAPER'S ATLAS of AMERICAN PAPERMAKING

containing 37 maps of the States where paper is made, together with important facts and figures, answers many interesting questions and shows plant locations.

This forty-four-page book, cloth bound in board, will be mailed free on application to anyone actually engaged in pulp or papermaking. To others, the price is \$2.00 postpaid, while the edition lasts.

**The DRAPER Felt**

## DRAPER BROTHERS COMPANY

Woolen Manufacturers Since 1856

CANTON, MASSACHUSETTS

Ralph E. Briggs, Sales Manager

BRADFORD WEST  
Pittsfield, Mass.

WILLIAM N. CONNOR, Jr.  
Canton, Mass.

L. H. BREYFOGLE  
Kalamazoo, Mich.

WALTER A. SALMONSON  
519-20 White Bldg., Seattle, Wash.

L. L. GRIFFITHS, Jr.  
Kalamazoo, Mich.

Answer to Question No. 2

In ten states west of the Mississippi!



**ROBERT P. STEVENS**, who was engaged in the paper manufacturing business for over 50 years but who retired several years ago, died in New Haven, Conn., Feb. 7, at the age of 87. He was the first superintendent of the paperboard mill of National Folding Box Co., New Haven, Conn., a position he held until 1922. Later he managed a board mill in Winchester, Va. Mr. Stevens was born in Woking, near London, England, where his father was engaged in papermaking. His son, Robert W. Stevens, well known mill consultant and manager of the paperboard mill of the Angelus Paper Box Co., of Los Angeles, Calif., advised **PULP & PAPER** of his father's passing.

### International Nickel Promotes Six Officials

Ralph D. Parker and J. Roy Gordon, of Copper Cliff, Ontario, and Herbert G. Fales, of New York, have been elected assistant vice presidents of The International Nickel Co. of Canada, Ltd., Robert C. Stanley, chairman and president, has announced. At the same time Mr. Stanley announced election of Walter C. Kerrigan, James F. McNamara and T. H. Wickenden as vice presidents of the company's U. S. subsidiary, The International Nickel Company, Inc.

**How Pioneer Rubber helps Western Industry**

**"TIME AND TIDE"**

Here's a Pioneer Rubber product that licks both time and tide. This flexible Pioneer hose handles copra from ship to shore *quickly* and economically *regardless* of changing tides. Pioneer Rubber has developed many types of such hose that speed the handling of grain, sugar, oil and other bulk commodities.

Meeting such demands of Western Industry's particular problems has been the specialty of Pioneer Rubber Mills for more than 60 years.

**DISTRIBUTORS:** Seattle • Tacoma • Washington Belting & Rubber Co. • Portland • Eugene • Klamath Falls • Munnell & Sherrill, Inc. • Boise • Medford • Lorenz Company • Salt Lake City • National Equipment Co. • Denver • Western Belting & Packing Co.

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**SAVE TIME**  
*On Every Job*  
WITH A  
**CLIPPER**  
MASONRY SAW



**Cuts**

- FIRE BRICK
- BUILDING TILE
- CONCRETE BLOCKS

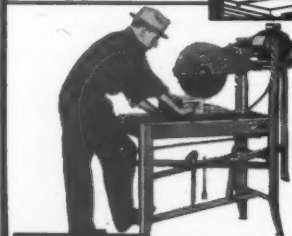
with

**AMAZING** *Speed and Accuracy*

● You'll be amazed how quickly and easily you can cut virtually any special length or shape from the hardest masonry materials. Clippers save time — save material, assure better workmanship on every job.

**Cuts DRY**

Clipper's exclusive design is guaranteed to provide the highest economy with most rapid cutting speed. With or without foot pedal control.



**Cuts WET**

No dust. With foot pedal control or without. You can set the cutting head in locked position. The hardest materials cut with ease.

**FAST and FLEXIBLE**

The New Model HD-48 Clipper cuts dry just exactly the same as regular Clipper Masonry Saws... and for Dustless masonry cutting just turn on the circulating system and slice thru the hardest materials. Proven by ten years use throughout the world. Guaranteed to provide the fastest cuts with lowest cost.

**TAILOR MAKE SPECIAL SIZES**

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### Record Believed Set Changing Head Box

During the recent installation of a new primary head box on No. 4 paper machine in the Savannah plant, less than six hours of production time was lost. This feat, accomplished by using only the secondary head box for forming the sheet on the Fourdrinier during the change over, is believed to have set a record in paper mills using similar paper machines.

Prior to the arrival of the new head box at the plant a plan was worked out for using the secondary head box to form the sheet on the Fourdrinier wire while the new primary head box was being installed. This plan called for putting the machine on a grade of paper that did not require the use of the secondary head box, which, in the meantime, could be moved further back on the Fourdrinier, the position it was to occupy during the installation. Under this plan the paper machine produced 67 per cent of its normal output during the four and a fraction days required for removing the old primary head box and installing the new one.

From paper to paper, the lost time on the 236-inch Pusey & Jones machine, one of five in the mill, was five hours and 39 minutes, which was the time consumed in changing deckles and washing up at the beginning and end of the pulp run.

### New Bag Plant

A yellow brick, blue glass building of 100,000 sq. ft. floor space, just built two years ago at Trenton, N. J., which can be seen from the Phila.-N. Y. railroad, and very modernistic in appearance, has been bought by Union Bag & Paper Corp. for new bag plant. It is seen on right, just five minutes out of Trenton, riding north.

### More Canadian Logs

Puget Sound pulp mills will receive larger supplies of pulpwood logs from British Columbia this year as a result of high-level negotiation at Ottawa and Washington resulting in announcement Feb. 19 that the 1948 quota on British Columbia log exports would be 82,500,000 board feet, compared with 32,500,000 feet last year and during most of the war years.

The additional shipments from British Columbia are expected to relieve the shortage of pulpwood in Northwest pulp mills to some extent. Their plight had been reported to the United States Department of State, which in turn had discussed the situation with the Canadian Department of External Affairs. All the logs will come from Crown lands in British Columbia, as heretofore.

In addition to the logs, Puget Sound pulp mills are receiving considerable quantities of slabs, chips and other mill by-products from sawmills in British Columbia. These shipments totaled the equivalent of 25,000,000 board feet during the first six weeks of this year. This would be about 200,000,000 feet annually if shipments are maintained at the same level throughout the year.

### Kraft Bleach Plant Starts Up at Camas

The new sulfate bleach plant of Crown-Zellerbach Corp., Camas, Wash., went into production in mid-March. This 150-ton, seven-stage bleach plant is "one of the latest and most modern in the industry," according to F. A. Drumb, resident manager. Equipment in the bleach plant is essentially Impco.

### Williams-Gray and Lindsay Make Announcements

Williams-Gray Co., 221 North LaSalle St., Chicago, Ill., have appointed two additional traveling representatives to represent them along the eastern seaboard and simultaneously the Lindsay Wire Weaving Co., of Cleveland, Ohio, announced that Williams-Gray will represent them on the eastern seaboard hereafter, as they have in other areas of the country for many years.

The new Williams-Gray staff members are Harry Hulmes, 550 Jericho Road, Abington, Pa., who will cover Atlantic states from Pennsylvania through North Carolina, and Charles J. Pennings, Jr., 14 Kenwood St., Portland, Maine, whose territory will be New England. Both gentlemen were formerly connected with a prominent rubber firm.

A. Fred Crossman, president, in making the announcement for Lindsay, recalled that E. H. "Bob" Williams, who is now president of Williams-Gray, paper and pulp mill supplies agents, was the first salesman for Lindsay 45 years ago. P. M. Foster, treasurer of Williams-Gray made the announcement for that firm.

### Superintendents' Prizes


First prize of \$1,000 in the annual Bolton essay contest for superintendents went to Ted Perry, Orchard Drive, Lewiston, New York.

Second prize of \$750 was won by E. A. Page, Kimberly-Clark Corp., Neenah, Wis.

Third prize of \$500 went to C. L. R. Dougherty, Union Bag & Paper Corp., Savannah, Ga.

The contestants wrote on proposed safety programs and ways to improve mill safety.

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## PULPWOOD SECTION

(Continued from page 60)

could watch the development. At the proper time, male pollen, also from selected superior trees, was injected into the bag by means of hypodermic needles. Thus, a superior strain was started.

The second phase of the operation was inaugurating for the first time the growth of the slash pine trees from cuttings. This was successfully done, an almost endless combination of rooting methods, fertilizers, watering procedures and chemical stimulants being tested to determine the most effective combination for advantageous growth.

For instance, it was proven the best time for cutting is the Fall of the year. Five or six inches of growth of the current year at the end of the twig roots best, no old wood being taken.

The seed culture method will produce a superior strain; the cutting method will reproduce a tree having all the characteristics of the parent stock.

Results on the seeded trees will be known in six or seven years more. The cuttings will prove up earlier, having had a faster start. When these have proven their ability, the present activity, which is of moderate proportions, will be stepped up. In three generations, 27 years from start, the coastal belt extending from Texas to the Atlantic would be well launched into slash pine plantations of pedigreed stock and high financial prospects.

### Floating Logging Camp

There may be other floating logging camps in the Pacific Northwest, but none



HARRIS B. FENN, twelve years with National Aniline Division of Allied Chemical & Dye Corp., recently promoted to Pacific Coast Manager with headquarters at 517 Howard St., San Francisco 5. He and Mrs. Fenn recently purchased a home at 990 Atherton Ave., Atherton, Calif. Mr. Fenn is a native of New York City and a graduate of Lowell Textile Institute, Lowell, Mass.

in the world is so big as that of British Columbia Pulp & Paper Co. at Holberg, near the northern tip of Vancouver Island.

The camp, thoroughly modern in equipment, is turning out about 240,000 feet of hemlock logs daily for the use of the company's sulfite pulp mill at Port Alice, some 40 miles away. The area is heavily timbered, and at the present rate of cutting will probably be operative for an-

other ten or 12 years, after which the floating camp will be moved to a new location.

"A floating camp has both advantages and disadvantages," says E. P. Burchett, manager of woods operations for B. C. Pulp & Paper Co., "but under present conditions at Holberg a floating camp meets requirements admirably. From the standpoint of transportation and delivery of supplies, a floating camp is simplicity itself. Boats or planes tie up at the dock and unload. There is no problem over sewage disposal. And so far we haven't found any loggers to balk at the idea of living on floats."

The camp itself consists of no less than 50 buildings, including a 66' x 44' community hall which serves as a gymnasium dance hall and theatre. There is also a pool room, store, machine, blacksmith and carpenter shops, warehouse, firehall, dining hall and cold storage building. The only road on shore extends only six and a half miles into the timber.

The camp's latest acquisition, the dining hall with an area of 4356 square feet and a seating capacity of 260, was formerly a hospital at Coal Harbor, 20 miles away. The building was cut in half, floated to Holberg and into place and the sides joined together.

J. B. MILLAR of the Woodlands department of Kimberly-Clark Corp., Kimberly, Wis., told the foremen's club that the timber rights held by Kimberly-Clark in the United States and Canada, total almost 9,000,000 acres.

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# Personals

## CANADA

### John Stadler Dies; Noted Engineer Was 74

John Stadler, widely known consulting engineer and a partner in Stadler, Hurter & Co., pulp and paper mill engineers, died Feb. 28 in Montreal. He was 74.

Mr. Stadler, engineer on many important industry projects in Canada, was a familiar figure at TAPPI and other industry meetings, where he always took an active part in proceedings. He was also president of the Lake Sulphite Pulp Co.

Born in Bavaria, he came to America as a young man and pioneered in many new pulp developments. In 1926 he built the Lake St. John Pulp and Powder Co. mill at Dolbeau, Que., and was its general manager.

REGINALD BAKER, purchasing agent for Powell River Co., has moved into a new wing of offices for Powell River Co., but still in the Standard Bank Building in Vancouver, B. C.

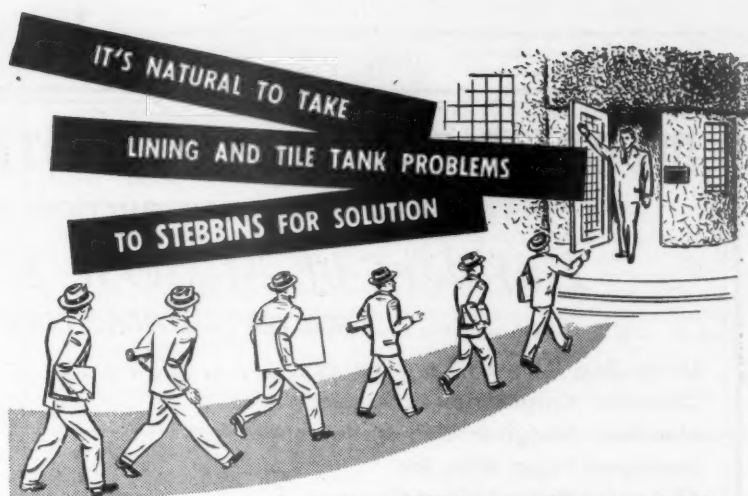
ANDREAS CHRISTENSEN, mill manager of the Long Lac Pulp & Paper Co., at Terrace Bay, Ont., has received news that the sawmill outfit organized by his grandfather in Norway and bearing his name is celebrating its 100th anniversary this year, with as much timber available as ever before, except for destruction caused during the Nazi occupation.

GEORGE H. CARSON, chief engineer of Bowater's Newfoundland Pulp & Paper Mills, is recovering from serious illness. He visited the British West Indies during his convalescence.

LAMONTE J. BELNAP, recently elected chairman of the executive board of the Canadian Pulp and Paper Assn., Montreal, has been made chairman of the board of Consolidated Paper Corp., and George M. Hobart, formerly executive vice president, has been appointed president, to succeed him.

BENTON R. CANCELL, vice president in charge of operations, Powell River Co., has been elected chairman of the western branch, Canadian Pulp and Paper Association, in Vancouver, B. C. succeeding Hugh Lewis, vice president of Sorg Pulp Co. James Petrie, manager of the pulp division, Bloedel, Stewart & Welch, Ltd., Port Alberni, is the new vice chairman.

P. A. "PETE" FRATTINGER, formerly plant engineer at Ocean Falls, B. C., has been promoted to the position of assistant to C. W. E. Locke, resident manager, Pacific Mills, Ltd., with supervision over plant maintenance and construction, industrial engineering, paper warehousing and shipping.



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### Executives Retire

Three executives of Powell River Co. have retired from active service—D. A. Evans, recently appointed vice president in charge of public relations; Robin Bell-Irving, formerly first vice president, and G. F. Laing, vice president and consultant on finance.

In announcing the change, President Harold S. Foley said that continued ill health of these officers had resulted in their desire to be relieved of their more onerous tasks.

Several months ago Mr. Bell-Irving relinquished some of his duties and became consultant to the president. He is a Powell River veteran and was resident manager at the mill town for several years before joining the head office in Vancouver. Mr. Evans is also a former resident manager.

Should Mr. Evans' health improve sufficiently he will resume his duties with the company. Meantime he continues as a director. During his absence the office is being carried on by Frank Flett, personnel manager.

At the turn of the year M. J. "Joe" Foley joined the company as executive vice president. Other vice presidents are B. R. Cancell and George O'Brien.

FRANK N. YOUNGMAN, vice president, and R. A. McDonald, executive vice president, Crown Zellerbach Corp., attended the management conference of Pacific Mills, Ltd., recently in Vancouver. J. A. Young, vice president of Pacific Mills, presided, and President Paul E. Cooper welcomed the participants.

P. R. SANDWELL, chief engineer of Powell River Co., is making a tour of the Scandinavian countries, England and Switzerland to study modern engineering technique as applied to the pulp and paper industry in Europe.

H. O. KEAY, manager of laboratories, Consolidated Paper Corporation, Three Rivers, Que., was a speaker recently in a lecture series at Montreal sponsored by the Pulp and Paper Research Institute of Canada.

T. LINDSEY CROSSLEY has been appointed technical supervisor of Champion Paper Mills, Toronto. He was with Defense Industries, Ltd., a government corporation, during the war.

A. C. PRICE, executive vice-president, Price Bros. & Co., Quebec City, was a recent visitor to the Pacific Coast, spending some time with British Columbia pulp and paper executives.

RON GOURLAY, formerly chief assistant in the comptroller's department, Pacific Mills, Vancouver, has been appointed office manager, succeeding J. F. Fisher, who has entered private business.

NEWMAN GOUGH has been appointed personnel superintendent for Bowaters Newfoundland Pulp & Paper Mills, Corner Brook, Nfld. Elwin Kean will be assistant in charge of employment and Wallace Hall assistant in charge of safety work, employee training, etc.

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Bedford Pulp & Paper Company, Inc.	Big Island, Virginia
Hudson Pulp & Paper Company	Palatka, Florida
B. F. D. Division, Diamond Match Co.	Ogdensburg and Plattsburg, N. Y.
Dexter Sulphite Pulp & Paper Company	Dexter, New York
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